

S
362.1
H2hm
1985
Montana. Dept. of
Health and
Environmental
Sciences
Healthy Montanas

HEALTHY MONTANANS: 1990 PERSPECTIVES

STATE DOCUMENTS COLLECTION

AUG 29 1989

September 1985

MONTANA STATE LIBRARY
1515 15TH AVE.
HELENA, MONTANA 59610



— prepared by —
Montana Department of Health
and Environmental Sciences

MONTANA STATE LIBRARY

S 362.1 H2hm 1985 c.1

Healthy Montanans : 1990 perspectives



3 0864 00062748 2

CONTENTS

	page
Introduction	1
Preventive Health Services	4
High Blood Pressure Control	5
Family Planning	10
Pregnancy and Infant Health	15
Immunization	21
Sexually Transmitted Diseases	27
Health Protection	32
Toxic Agent Control	33
Occupational Safety and Health	39
Accident Prevention and Injury Control	41
Oral Health	46
Surveillance and Control of Infectious Diseases	51
Health Promotion	58
Smoking and Health	59
Misuse of Alcohol and Drugs	64
Nutrition	70
Physical Fitness and Exercise	76
Control of Stress and Violent Behavior	81

INTRODUCTION TO THE 1990 OBJECTIVES

STATE DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES PERSPECTIVE

Introduction

This document represents a design for health policy to improve the health status of Montanans. Positive solutions to the major health problems of today lie in making lifestyle changes associated with chronic diseases. It is no longer infectious diseases that do the most harm. Heart disease, cancer, accidents and violence are the epidemics of our time. Continuing concern is expressed for the significant problems associated with pre-term labor, prematurity and perinatal disease. There is now reasonable control and maintenance for communicable diseases such as polio, diphtheria, measles and mumps.

The most reasonable course of action in the coming years is to further the attack on the behaviors that lead to premature death and disability. Although the State Department of Health and Environmental Sciences may take a lead role, the responsibility for the prevention, protection and promotion of health lies with each individual.

The "1990 Objectives for the Nation: Promoting Health, Preventing Disease" was the document chosen to draw State perspective to this challenge. The report by the Public Health Service outlined 15 priority areas with specific objectives whose attainment would significantly improve the health of the American people. These objectives were also selected because of their realization of attaining the 5 major goals of the U.S. Surgeon General.

The 15 priority areas identified in the process are grouped under these headings: Preventive Health Services, Health Protection and Health Promotion. Preventive Health Services list 5 priority areas: high blood pressure, family planning, pregnancy and infant health, immunization, and sexually transmitted disease control. Under Health Protection, the list includes toxic agent and radiation control, fluoridation and dental health, occupational safety and health, accident prevention and injury control, and surveillance and control of

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \int_0^x f(t) dt$. It is shown that $f(x)$ is a constant function, and its value is determined by the initial condition $f(0) = 1$.

2. In the second part, the function $f(x)$ is extended to the complex plane. It is shown that $f(z)$ is an entire function, and its Taylor series expansion is given by $f(z) = \sum_{n=0}^{\infty} \frac{z^n}{n!}$.

3. The third part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \int_0^x f(t) dt$. It is shown that $f(x)$ is a constant function, and its value is determined by the initial condition $f(0) = 1$.

4. In the fourth part, the function $f(x)$ is extended to the complex plane. It is shown that $f(z)$ is an entire function, and its Taylor series expansion is given by $f(z) = \sum_{n=0}^{\infty} \frac{z^n}{n!}$.

5. The fifth part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \int_0^x f(t) dt$. It is shown that $f(x)$ is a constant function, and its value is determined by the initial condition $f(0) = 1$.

6. In the sixth part, the function $f(x)$ is extended to the complex plane. It is shown that $f(z)$ is an entire function, and its Taylor series expansion is given by $f(z) = \sum_{n=0}^{\infty} \frac{z^n}{n!}$.

HIGH BLOOD PRESSURE CONTROL

Summary of the Problem:

In 1984, Approximately 22% of adult Montanans reported they had been told they had high blood pressure. Of those persons who indicated they were hypertensive, 66.3% said they had been told more than once and 33.7% reported being told only once. Only 2.3% of Montanans have an uncontrolled hypertension problem. Untreated hypertension is the single largest contributor to stroke and a major contributor to heart disease and kidney failure.

High blood pressure contributes directly or indirectly to about one million deaths a year; however, the disease is treatable. Many deaths could be prevented if high blood pressure is detected early and managed properly. Smoking-related deaths have decreased by more than 40% and deaths from kidney and heart disease have decreased significantly, much due to the result of earlier and better treatment of high blood pressure.

infectious diseases. The final rubric, Health Promotion includes: smoking control, alcohol and drug misuse prevention, improved nutrition, physical fitness and exercise, and control of stress and violent behavior. The value of this report to the Montana community is the summary of the strategy that could be undertaken statewide for promoting health and preventing disease.

Process

The Montana version of the 1990 Objectives originated with John J. Drynan, M.D., Director of the Montana Department of Health and Environmental Sciences, and the staff of the Health Services and Medical Facilities Division of the Department. The strategy decided upon for the development and attainment of the objectives began with a review and ranking by state personnel having special interest in the particular subject area. Following the initial review, the information would be presented to a representative group of health providers statewide. This group would assist in deciding if the proposed objectives addressed the unique characteristics of Montanans in terms of perceived needs.

The process has taken the following steps:

1. Selected program personnel were asked to review each national objective in their area of interest. These people were to decide whether an objective was deserving of a high, medium or low priority for the state.
2. The review personnel were asked to explore the roles of public, private and voluntary agencies which might be instrumental in planning and implementing the objective. The statistics to support the objective and data needs were to be specified. A comment section was included to identify constraints and opportunities that could influence the attainment of objectives.
3. The individual reviewers next discussed the objectives in workgroups. In this process, each program manager presented how the objectives they developed reflect the national objective. The workgroup commented on additional objectives to assist in re-working the structure of the objective and the background for each statement.

PREVENTIVE HEALTH SERVICES

High Blood Pressure Control

Family Planning

Pregnancy and Infant Health

Immunization

Sexually Transmitted Disease

Digitized by the Internet Archive
in 2010 with funding from
Montana State Library

<http://www.archive.org/details/healthymontanans1985mont>

4. A proposed statewide strategy on promoting health and preventing disease was produced. The process represents the efforts of the State Department of Health and Environmental Sciences staff to refine the 1990 Objectives into a draft document. This draft is open to additional review and input by representative groups.

The remaining steps in the process of developing the objectives are (1) a conference for broad-based input and (2) publication of a final document. Accomplishment of these steps will be as follows:

1. In the spring-summer 1985, the document will be presented at various meetings (HSA subarea councils, State Health Coordinating Council, Board of Health and Montana Legislature). At the same time, the 1990 Objectives Committee will be exploring the possibility of a two-day conference. The conference would be designed around a diverse representation of conference participants to obtain work group recommendations. If the conference begins to take shape, a subcommittee will design the pre and post conference actions necessary for a successful effort.
2. The final step would result in publication of a document representing a Montana plan for promoting health and preventing disease. The document would offer direction for health education and planning for the remainder of the decade.

Objective 9: By 1990, at least 50% of processed food in grocery stores should be labeled to show sodium and calorie content.

HIGH BLOOD PRESSURE CONTROL

Objective 1: By 1990, the prevalence of significant overweight (120% of ideal body weight) among the Montana adult population should be decreased to 10% for men and to 17% for women, and the prevalence of underweight (less than 90% of ideal body weight) should be reduced to 8%. This should be accomplished without nutritional impairment.

Rationale: Excessive body weight has been indicated in a number of health problems, especially in relation to high blood pressure and heart disease, including stroke and kidney failure. The greater the weight excess, the greater the additional risk. It does appear to be a major risk factor of adult onset of diabetes.

The 1982 Centers for Disease Control National Behavior Risk Study revealed that the underweight population has shown increased risk for cancer and anorexia nervosa. Attaining ideal body weight is one of the most important steps in prevention and self responsibility.

Discussion: Research shows that 23.4% of the adult men and 20.3% of the women were more than 120% of desired weight. In 1982, 12% of the Montana adult population was less than 90% of the desired weight.

Annual surveillance of adults should be conducted to detect excess body weight and underweight.

* * * * *

Objective 2: By 1990, at least 60% of the high blood pressure population (140/90) should have attained 140/90 for two or more years.

Rationale: Lowering high blood pressure to a normal range will reduce disease morbidity and mortality and improve Montana's health status.

Discussion: Presently, 2.3% of Montanans have self-reported uncontrolled high blood pressure. Males respond to treatment better than females. Also, college graduates and higher income individuals (\$20,000-\$34,999) respond better to treatment.

* * * * *

Objective 3: By 1990, no region in Montana should be without a high blood pressure program to identify persons with high blood pressure and to follow up on their treatment.

Rationale: The geographical distance, population dispersion, and limited resources make this objective somewhat difficult. If this became a state priority, it is felt that a voluntary system through comprehensive management could be established and maintained.

Discussion: In 1982, research indicated that 82% of Montanans had had their blood pressure checked within the last year (87% females; 73% males).

A more concentrated screening effort should be made to reach minorities, males and the underserved.

* * * * *

Objective 4: By 1990, at least 75% of the adult population in Montana should be able to state the principal risk factors (high blood pressure, smoking, cholesterol) for coronary heart disease and stroke, and the effects of high sodium intake and excessive weight on blood pressure.

Rationale: Awareness of high blood pressure risk factors should benefit Montanans and assist in making behavioral changes.

Discussion: In 1982, according to the Montana Department of Health and Environmental Sciences Risk Prevalence Study, 60% of those surveyed mentioned overweight, stress and salt as principal risk factors. Also, 30% knew that drinking, fatty foods, heredity, and smoking could increase the chances of high blood pressure.

* * * * *

Objective 5: By 1990, Montana will have developed a system to assess categories of high blood pressure control in accordance with a national baseline study.

Rationale: The data would be of value in establishing health programs, but should be administered as part of a comprehensive study model on a national level.

Discussion: A collaborative effort needs to be established at the local level with all primary health care providers. They should participate in the implementation of activities in order to assure more comprehensive high blood pressure prescription procedures, referral, and follow up.

FAMILY PLANNING

Summary of the Problem:

More than 5.8 million poor women and sexually active teenagers are unable to receive family planning services from organized clinics or private doctors.

Even the most sophisticated contraceptive methods currently in use are inadequate, with significant failure rates in actual use and potential side effects that deter many people from using them at all.

Almost 1.5 million abortions were performed last year, reflecting a high incidence of unwanted pregnancies that might have been avoided had preventive services been more readily available.

Almost 300,000 married women have unwanted births each year, most of them poor or over age 35.

Approximately 250,000 babies are born each year with congenital defects, occurring disproportionately to very young and older mothers who have the highest incidence of unintended pregnancies.

There are an estimated 44,047 women-in-need of subsidized family planning services in Montana. About 39% of these women (or 17,359) are being served by the 15 family planning programs in the State. Roughly estimated, an additional 9,317 women-in-need (or 21%) are being provided family planning services by physicians. This leaves some 17,371 Montana women needing family planning services who are not receiving them. They are at risk for unplanned children.

FAMILY PLANNING

Priority Objectives

Objective 1: By 1990, Montana students in grades 4-12 will receive age appropriate education about reproductive health (including contraception instruction) in school on a scheduled basis. In addition, at least 100 hours each of quality prime time radio and television announcements, commercials and programs to improve reproductive health will be provided in Montana annually.

Objective 2: By 1990, reduce unintended pregnancies among Montana women 15-44 by 50% of the present rate.

Objective 3: By 1990, the availability of family planning information and methods (education, counseling and medical services) to all Montana women and men should have sufficiently increased to reduce by 50 percent the disparity between Montanans of different economic levels in their ability to avoid unplanned pregnancies.

Objective 4: By 1990, at least 75 percent of Montana men and women over the age of 14 should be able to describe accurately the various contraceptive methods, including the relative safety and effectiveness of one method versus the others.

Objective 5: By 1990, sales in Montana of oral contraceptives containing more than 50 micrograms of estrogen should have been reduced to 15% of total sales or less.

Other Objectives

Objective 6: By 1990, there should be virtually no unintended pregnancies to girls 14 years old or younger in Montana.

Objective 7: By 1990, the Montana fertility rate for 15 year old girls should be less than 10 per 1,000.

Objective 8: By 1990, the Montana fertility rate for 16 year old girls should be less than 25 per 1,000.

Objective 9: By 1990, the Montana fertility rate for 17 year old girls should be less than 45 per 1,000.

Objective 10: 100 percent of Montana's federally funded Title X family planning programs will continue to have an established routine for providing an initial infertility assessment either directly or through referral.

FAMILY PLANNING

Objective 1: By 1990, Montana students in grades 4-12 will receive age appropriate education about reproductive health (including contraception instruction) in school on a scheduled basis. In addition, at least 100 hours each of quality prime time radio and television announcements, commercials and programs to improve reproductive health will be provided in Montana annually.

Rationale: The mass media are the greatest source of communication for this age group, and the media also reaches parents and community leaders. A required family life education curriculum in school districts statewide would result in improved knowledge of reproductive health.

Discussion: Education about reproductive health is the key to prevention of unintended pregnancy, and there is a desperate need for the establishment in Montana of a statewide network for education about reproductive health. Funding sources and providers should focus on the development of objectives under the umbrella goal: To promote and provide education about reproductive health. The availability and cost of prime time media would pose constraints in achieving this objective, but it is of the highest importance. The use of "hot line" information and referral numbers would insure the widest dissemination of information about reproductive health. The dissemination of such information is considered critical, especially in areas of the state where there is opposition to providing reproductive health information in the schools. The availability of adequate funding for these activities was considered the primary constraint in attaining this objective, but legislative support may be required to achieve the objective.

* * * * *

Objective 2: By 1990, reduce unintended pregnancies among Montana women 15-44 by 50% of the present rate.

Rationale: Reduction of unintended pregnancies can improve the economic, social, and health status of individuals.

Discussion: Unintended pregnancies should not be limited only to single women, but should be reduced for all women. Low income women should receive priority. Funds for education, services, and monitoring are major constraints.

* * * * *

Objective 3: By 1990, the availability of family planning information and methods (education, counseling and medical services) to all Montana women and men should have sufficiently increased to reduce by 50 percent the disparity between Montanans of different economic levels in their ability to avoid unplanned pregnancies.

Rationale: Controlling fertility has positive economic, social and health benefits.

Discussion: The goal of family planning programs is to assure all couples have access to services to enable them to voluntarily control their fertility regardless of income. Priority is given to low income women. Increased funding for family planning programs is necessary in order to meet this objective.

* * * * *

Objective 4: By 1990, at least 75 percent of Montana men and women over the age of 14 should be able to describe accurately the various contraceptive methods, including the relative safety and effectiveness of one method versus the others.

Rationale: Education regarding contraceptive methods is the key to prevention of unintended pregnancies.

Discussion: Age appropriate education about reproductive health (including contraception instruction) is not available statewide in schools and churches on a scheduled basis.

* * * * *

Objective 5: By 1990, sales in Montana of oral contraceptives containing more than 50 micrograms of estrogen should have been reduced to 15% of total sales or less.

Rationale: "In almost no instance should a woman be started on pills with more than 50 mcg of estrogen." (Contraceptive Technology 1984-1985). The estrogenic component of the pill is responsible for most of the major pill-associated complications and for many of the minor side effects which may lead to pill discontinuation (Contraceptive Technology 1984-1985).

Discussion: Monitoring of pharmaceutical companies regarding the percent of oral contraceptives dispensed/sold in Montana will allow data gathering efforts.

PREGNANCY AND INFANT HEALTH

Summary of the Problem:

The 1983 Montana infant mortality rate declined to a record low of 9 infant deaths per 1,000 births. There were 60 neonatal deaths and 66 postneonatal deaths in 1983 in Montana.

From 1974-1983, Montana's infant mortality dropped from 16.5 to 9 per 1,000 live births. The factors underlying improvements in infant mortality are complex, but include increased availability of regionalized intensive care units, increased access to prenatal services, public information and education, and improvements in maternal nutritional status.

The principal threats to infant health are birth defects that can lead to lifelong handicapping conditions, and problems associated with low birth weights. Today, an estimated 7 percent of all babies are of low birth weight.

In the U.S. in 1978, 1 in 4 women giving birth made no prenatal visit during the first trimester and 1 in 20 made no prenatal visit during the first two trimesters. In Montana in 1983, it is estimated there were 3,000 women with inadequate prenatal care.

PREGNANCY AND INFANT HEALTH

Priority Objectives

Objective 1: By 1990, low birth weight babies in Montana (5½ pounds and under) should constitute no more than 2.8 percent of all live births.

Objective 2: By 1990, the incidence in Montana of infants born with Fetal Alcohol Syndrome should be reduced by 25 percent.

Objective 3: By 1990, virtually all women and infants in Montana should be served at levels appropriate to their need by a regionalized system of primary, secondary and tertiary care for prenatal, maternal and perinatal health services.

Objective 4: By 1990, virtually all Montana women who give birth should have appropriately attended, safe delivery, provided in ways acceptable to them and their families.

Objective 5: By 1990, no Native American populace in Montana should have an infant mortality rate in excess of 7 deaths per 1,000 live births.

Other Objectives

Objective 6: By 1990, the maternal mortality rate in Montana should not exceed 5 per 100,000 live births for any county or for any ethnic group.

Objective 7: By 1990, the incidence of neural tube defects in Montana should be reduced to 1.0 per 1,000 live births.

Objective 8: By 1990, in Montana the proportion of women in any county or racial or ethnic groups who obtain no prenatal care during the first trimester of pregnancy should not exceed 5 percent.

Objective 9: By 1990, in Montana Rhesus hemolytic disease of the newborn should be reduced to below a rate of 1.3 per 1,000 live births.

Objective 10: By 1990, no Montana county and no racial or ethnic group in Montana should have a rate of low birthweight infants that exceeds 3 percent of all live births.

Objective 11: By 1990, 95 percent of Montana's women of childbearing age should be able to choose foods wisely and understand the hazards of smoking, alcohol, pharmaceutical products and other drugs during pregnancy and lactation.

Objective 12: By 1990, the majority of infants in Montana should leave hospitals in car safety seats.

Objective 13: By 1990, Montana should have a system in place for comprehensive and longitudinal assessment of the impact of a range of prenatal factors (e.g., maternal exposure to radiation, ultrasound, dramatic temperature change, toxic agents, smoking, use of alcohol or drugs, exercise, or stress) on infant and child physical and psychological development.

Objective 14: By 1990, virtually all infants in Montana should be able to participate in primary health care that includes well child care; growth development assessment; immunization, screening, diagnosis and treatment for conditions requiring special services; appropriate counseling regarding nutrition, automobile safety, and prevention of other accidents such as poisonings.

Objective 15: By 1990, virtually all pregnant women in Montana at high risk of having a fetus with a condition diagnosable in utero, should have access to counseling and information on amniocentesis and prenatal diagnosis, as well as therapy as indicated.

Objective 16: By 1990, Montana's infant mortality rate (deaths for all babies up to one year of age) should be reduced to no more than 6 deaths per 1,000 live births.

Objective 17: By 1990, the neonatal death rate (deaths for all infants up to 28 days old) in Montana should be reduced to no more than 3 deaths per 1,000 live births.

PREGNANCY AND INFANT HEALTH

Objective 1: By 1990, low birth weight babies in Montana (5½ pounds and under) should constitute no more than 2.8 percent of all live births.

Rationale: Prematurity is the leading cause of infant morbidity and mortality.

Discussion: Need to practice state-of-the-art medicine and prevent 1/2 of preterm labors, i.e., employment of contemporary methods. Educational programs directed at pregnant women and primary health care providers is the responsibility of the State MCH program and should be supported by State general funds.

* * * * *

Objective 2: By 1990, the incidence in Montana of infants born with Fetal Alcohol Syndrome should be reduced by 25 percent.

Rationale: One out of 10 mentally retarded children are attributed to FAS. One out of 10 cleft patients are a result of FAS. An unknown number of cardiac patients are a result of FAS. Fetal alcohol syndrome is totally preventable!

Discussion: The MCH program at the State level must increase the effort in taking the lead in provider and consumer education.

* * * * *

Objective 3: By 1990, virtually all women and infants in Montana should be served at levels appropriate to their need by a regionalized system of primary, secondary and tertiary care for prenatal, maternal and perinatal health services.

Rationale: Infants of high risk pregnancies do much better if delivered in Level III hospitals as opposed to Level II hospitals and similarly in Level II hospitals as opposed to Level I hospitals. The infant's stay is 1/3 as long and the cost is 1/3 less than if born in a Level II hospital and transported to a Level III hospital.

Discussion: State supported professional education and transport support is an absolute must. This regionalization concept has been one of the

major thrusts of IPO during its 5 years of existence (1979-1984). Activities to maintain regionalization must continue.

* * * * *

Objective 4: By 1990, virtually all Montana women who give birth should have appropriately attended, safe delivery, provided in ways acceptable to them and their families.

Rationale: Home deliveries need to meet safe levels of care. Hazards of birth are higher with home deliveries. Alternate birthing centers are preferable to home deliveries.

Comments: The State of Montana should provide delivery/medical care for women who cannot afford hospitalization. High risk pregnancies should be identified and treated adequately. Educational programs need to be developed and disseminated among the general public regarding the increased risk of utilizing non-licensed lay midwives.

Neither the social or economic circumstance nor the geographical location of mothers should dictate the level of care.

* * * * *

Objective 5: By 1990, no Native American populace in Montana should have an infant mortality rate (IMR) in excess of 7 deaths per 1,000 live births.

Rationale: The infant mortality rate for Indian infants has been excessive.

IMMUNIZATION

Summary of the Problem:

The seven major childhood diseases -- measles, mumps, rubella, polio, diphtheria, pertussis, and tetanus -- can cause permanent disability and, in some cases, death. They all can be prevented by immunization. Prior to the National Childhood Immunization Initiative of 1977 more than one-third of all children under age 15 were not properly protected. Since 1977, two major advances have been made: (1) All states now have school and most day care immunization requirements; (2) the immunization status of these children has risen to over 90%.

Outbreaks of measles and pertussis, and occasionally diphtheria and polio, during the early 1980's indicate that immunization must be emphasized continually. With the combination of safe, effective vaccines, public and private programs, and a reliable disease surveillance and outbreak containment system, infectious disease can be controlled. Also, even though vaccines are now available to reduce the risk of influenza, hepatitis B, and pneumococcal pneumonia, many high risk patients are not protected.

IMMUNIZATION

Priority Objectives

Objective 1: By 1990, reported cases of these vaccine preventable diseases will be:

- a. Measles: Maintained to less than 5 cases per year.
- b. Mumps: Maintained to less than 5 cases per year.
- c. Rubella: Maintained to less than 5 cases per year.
- d. Congenital Rubella Syndrome (CRS): Maintained at 0 cases per year.
- e. Diphtheria: No more than one case per year.
- f. Pertussis: Maintained to less than 5 cases per year.
- g. Tetanus: No more than one case per year.
- h. Polio: Maintain paralytic polio at 0 cases per year.

Objective 2: By 1990, all mothers of newborns should receive instruction prior to leaving the hospital or after home births on immunization schedules for their babies.

Objective 3: By 1990, at least 90 percent of all children should have completed their basic series by age 2 -- measles, mumps, rubella, polio, diphtheria, pertussis and tetanus.

Objective 4: By 1990, 97% of children in licensed day care and kindergartens through grade 12 should be fully immunized and 100% should be in compliance with state law.

Objective 5: By 1990, an immunizable disease reporting/surveillance system should be in place with 100 percent of reported, suspected and confirmed cases logged and investigated within 24 hours as appropriate.

Other Objectives

Objective 6: By 1990, influenza and pneumococcal vaccines should be available to high risk populations through local public health agencies.

Objective 7: By 1990, at least 50 percent of people in populations designated as targets by the ACIP should be immunized within 5 years of licensure of new vaccines for routine clinical use.

Objective 8: By 1990, mass immunization campaigns shall use delivery systems already in place, and shall adopt plans to individual situations.

Objective 9: By 1990, all persons should obtain and maintain an up-to-date official immunization record from their health care provider.

Objective 10: By 1990, no comprehensive health insurance policies should exclude immunizations.

IMMUNIZATION

Objective 1: By 1990, reported cases of these vaccine preventable diseases will be:

- a. Measles: Maintained to less than 5 cases per year.
- b. Mumps: Maintained to less than 5 cases per year.
- c. Rubella: Maintained to less than 5 cases per year.
- d. Congenital Rubella Syndrome (CRS): Maintained at 0 cases per year.
- e. Diphtheria: No more than one case per year.
- f. Pertussis: Maintained to less than 5 cases per year.
- g. Tetanus: No more than one case per year.
- h. Polio: Maintain paralytic polio at 0 cases per year.

Rationale: All the above diseases are virtually preventable through appropriate immunization of children and susceptible adults.

Discussion: All of these diseases are at all time low levels due to health protection activities such as passage of school and day care requirements, and ensuring children are immunized appropriate for their age. Reported care for each of the diseases since are:

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Measles	2	0	0	4
Mumps	42	13	8	5
Rubella	44	3	7	4
CRS	0	0	0	0
Diphtheria	0	1	0	0
Pertussis	3	12	1	2
Tetanus	0	0	0	0
Polio	0	0	0	0

A high ranking is given to this objective, since morbidity reports over the past 10-15 years have demonstrated that vaccines are cost effective. However, even though the vaccines are effective, some morbidity is inevitable due to immigration. The attainment of these objectives depends on the resources available to maintain low levels of morbidity.

* * * * *

Objective 2: By 1990, all mothers of newborns should receive instruction prior to leaving the hospital or after home births on immunization schedules for their babies.

Rationale: This objective emphasizes the first major opportunity to inform mothers of newborns about the importance of immunizations.

Discussion: This objective is currently being met in Montana. Achieving the 1990 objective, however, is dependent upon resources increasing with corresponding population growth.

Currently, 60 out of 61 hospitals distribute the SDhES educational packet to the new mothers.

A need for an anticipated birth rate for future years would be useful.

* * * * *

Objective 3: By 1990, at least 90 percent of all children should have completed their basic series by age 2 -- measles, mumps, rubella, polio, diphtheria, pertussis and tetanus.

Rationale: Early vaccination will maintain small numbers of susceptibles from religious or medical contraindications, thus low morbidity.

Discussion: Several random sample surveys have been done in Montana with resultant levels at or near the 90% goal.

Accurate methods need to be developed to determine immunization status of two year olds.

Resources are a major constraint in attaining this objective. Since approximately 70% of all Montana children are immunized through their private physician, major responsibility of attaining this objective falls on the private physician.

* * * * *

Objective 4: By 1990, 97% of children in licensed day care and kindergartens through grade 12 should be fully immunized and 100% should be in compliance with state law.

Rationale: This is ranked high because the Legislature and health officials regard immunizations as imperative for protecting the children of Montana. In addition, day care facilities and schools provide access to immunization record audits to identify incomplete records.

Discussion: Annual random surveys currently conducted reflect at least 90% of all children in day care and kindergarten through 12th grade are fully immunized.

The attainment of this objective depends on the cooperation of public and private health providers. There is a need to educate health providers about Montana immunization regulations, recommended schedules, and reportable diseases.

* * * * *

Objective 5: By 1990, an immunizable disease reporting/surveillance system should be in place with 100 percent of reported, suspected and confirmed cases logged and investigated within 24 hours as appropriate.

Rationale: The purpose of this objective is to implement a system to control outbreaks of disease. A high ranking is assigned because it is imperative that control measures be established to interrupt the "chain of transmission of disease."

Discussion: Currently, a predominantly passive surveillance system exists in Montana. This system has identified very low levels of morbidity of these vaccine preventable diseases.

An accurate surveillance system needs to be established at local health levels in order to help verify if these low morbidity levels are accurate or not.

Execution will require a greater effort by local public health departments in order to complete investigations within 24 hours.

SEXUALLY TRANSMITTED DISEASES

Summary of the Problem:

Nationally, over 10 million cases of sexually transmitted diseases (STD) occur annually, 96 percent of them in the 15-to-29 year olds. The most common STDs are trichomoniasis, gonorrhea, non-gonococcal urethritis, genital herpes, and syphilis. In 1950 the reported syphilis rate was 146 per 100,000. The rate decreased to 30 per 100,000 by 1978, resulting in approximately 80,000 new cases of syphilis per year. During the same time span the gonorrhea rate increased from 192 cases per 100,000 to 468 cases per 100,000. In each year between 1967 and 1976, reported cases of gonorrhea increased between 10 and 15 percent. Between 1976 and 1978 the annual increase was less than 1 percent; but the total number of cases of gonorrhea still exceeded 2.5 million. In addition to the large number of syphilis and gonorrhea cases, 3 million cases of trichomoniasis, 2.5 cases of non-gonococcal urethritis, and 500,000 cases of genital herpes occur annually. The most serious complication caused by sexually transmitted agents are pelvic inflammatory disease, sterility, infant pneumonia, infant death, birth defects, and mental retardation.

Montana experiences the same problems as the national statistics address but maybe not at the same levels. The problems of control and complication from these diseases are no different.

There is clear evidence that both the quality of the services and the attitudes with which they are delivered are important in attracting those who need STD services. While existing programs are interrupting the transmission of syphilis and gonorrhea, many vulnerable groups may not yet be adequately served. To approach them effectively will require not only the efforts of STD clinics and investigators, but also those of family planning clinics, private physicians, diagnostic and public health laboratories, and schools and other educational institutions.

SEXUALLY TRANSMITTED DISEASES

Priority Objectives

Objective 1: By 1990, reported gonorrhea incidence should be reduced to a rate of 130 cases per 100,000 population.

Objective 2: By 1990, reported incidence of gonococcal pelvic inflammatory disease (GPID) should be reduced to a rate of 10 cases per 100,000 females.

Objective 3: By 1990, reported incidence of primary and secondary syphilis should be maintained to a rate of 2 cases per 100,000 population per year, with less than 1 case per 100,000 of congenital syphilis in children under 1 year of age.

Objective 4: By 1990, every public school system will provide STD health education as part of the school curriculum beginning no later than 7th grade.

Objective 5: By 1987, at least 95 percent of health care providers seeing suspected cases of sexually transmitted diseases should be capable of diagnosing and treating all currently recognized sexually transmitted disease.

Other Objectives

Objective 6: By 1990, the incidence of serious neonatal infection due to sexually transmitted agents, especially herpes and chlamydia, will be reduced.

Objective 7: By 1990, all public health clinics will provide treatment and contact referral for persons infected with non-gonococcal urethritis.

Objective 8: By 1990, the proportion of persons aware of the protective value of condoms will be increased.

Objective 9: By 1990, data should be available in adequate detail (but in statistical aggregates to preserve confidentiality) to determine the occurrence of non-gonococcal urethritis, genital herpes and other sexually transmitted

diseases in each local area, and to recommend approaches for preventing sexually transmitted diseases and their complications.

Objective 10: By 1990, surveillance systems should be sufficiently improved so that at least 50 percent of sexually transmitted diseases diagnosed in medical care facilities are reported, and that uniform definitions are used nationwide.

SEXUALLY TRANSMITTED DISEASES

Objective 1: By 1990, reported gonorrhea incidence should be reduced to a rate of 130 cases per 100,000 population.

Rationale: The primary concern is the consequences of sexually transmitted diseases for infants, fetuses and women. The reduction of the reservoir of gonorrhea eventually will lessen the risks to these groups.

Discussion: Reported morbidity is an indicator of morbidity, not an actual count. As with other sexually transmitted diseases, the exact degree of underreporting is unknown, but thought to be significant. With help from private physicians, it is anticipated that reporting will improve.

Morbidity is not evenly distributed through the population. High risk groups can be identified by age, sex, geographical location and ethnicity. Identification of such risk groups, and working with numbers of those groups to develop educational and service programs, should be a promising strategy.

* * * * *

Objective 2: By 1990, reported incidence of gonococcal pelvic inflammatory disease (GPID) should be reduced to a rate of 10 cases per 100,000 females.

Rationale: GPID is a cause of undesired infertility and poor outcome of pregnancy which are the most common serious complications of gonorrhea in females.

Discussion: Most GPID cases are seen by private physicians (usually in emergency rooms in hospitals). Timely treatment of gonorrhea can prevent GPID. Most females are asymptomatic until the development of GPID clinical symptoms appear. A majority of GPID females have been infected by asymptomatic males, or by identified and treated symptomatic males where no follow-up of contacts was initiated. The best strategy is to prevent the disease in the first place. Also, by reducing the reservoir of gonorrhea, the incidence of late complications will be reduced. Public health resources will be applied to attempt to counsel infected persons with a focus on the treatment of contacts and the prevention of reinfection with gonorrhea.

* * * * *

Objective 3: By 1990, reported incidence of primary and secondary syphilis should be maintained to a rate of 2 cases per 100,000 population per year, with less than 1 case per 100,000 of congenital syphilis in children under 1 year of age.

Rationale: Congenital syphilis is a preventable condition.

Discussion: Improved case finding and better reporting will raise the reported incidence of primary and secondary syphilis. In the long run, however, they will reduce actual incidence. The workgroup expects to see the reduction by 1990.

Professional and public education are major strategies in the reduction of the incidence of syphilis.

* * * * *

Objective 4: By 1990, every public school system will provide STD health education as part of the school curriculum beginning no later than 7th grade.

Rationale: The focus is on school systems rather than students, since it may be more feasible to monitor junior and high school curricula.

Discussion: Inclusion of STD health education into school curriculum is important for prevention.

* * * * *

Objective 5: By 1987, at least 95 percent of health care providers seeing suspected cases of sexually transmitted diseases should be capable of diagnosing and treating all currently recognized sexually transmitted disease.

Rationale: Detection of sexually transmitted disease is important for the health of the pregnant woman and the newborn.

Discussion: As improved laboratory testing becomes available monitoring herpes infections among women should improve.

HEALTH PROTECTION

Toxic Agent Control

Occupational Safety and Health

Accident Prevention and Injury Control

Oral Health

Surveillance and Control of Infectious Diseases

TOXIC AGENT CONTROL

Summary of the Problem:

Toxic compounds can have diverse, serious effects. Exposure to toxic chemicals or physical hazards can produce chronic lung disease, developmental impairment, cancer, chronic degenerative diseases, neurological changes, and immunologic diseases.

If high exposure causes serious disease, the same ill effects may occur in people exposed to much lower doses over a long period. The most widely discussed effect of hazardous substances is cancer. Research has suggested that 90 percent of human cancers are due to environmental factors, but usually include factors of diet, alcohol and cigarette smoking.

It is estimated that of the four million chemical compounds which have been synthesized or isolated from natural materials, more than 55,000 are produced commercially. Over 2,000 chemicals are suspected carcinogens in laboratory animals, with epidemiologic studies suggesting that 26 of these chemicals are carcinogenic in humans.

TOXIC AGENT CONTROL

Priority Objectives

Objective 1: By 1990, virtually all wastewater management or process water systems established after 1980 should be in substantial compliance with Montana surface and ground water quality standards and/or federal effluent guidelines.

Objective 2: By 1990, virtually all of Montana's community public water systems should meet Federal and State standards for safe drinking water.

Objective 3: By 1990, virtually all Montana communities should be meeting all Montana and federal primary ambient air quality standards.

Objective 4: By 1990, all hazardous waste treatment, storage and disposal facilities in Montana will be licensed.

Objective 5: To refine present monitoring efforts within the environmental sciences division and continue to coordinate and incorporate these efforts through 1990.

Other Objectives

Objective 6: Through 1990, continue to contribute scientific monitoring data to federal data storage systems.

Objective 7: By 1990, at least half of all Montana adults should be able to accurately report an accessible source of information on toxic substances to which they may be exposed.

Objective 8: By 1990, at least half of all Montanans 15 years and older should be able to identify the major categories of environmental threats to health and note some of the consequences.

Objective 9: By 1990, at least 70 percent of Montana's primary care physicians should be able to identify the principal health consequences of exposure to each of the major categories of environmental threats to health.

Objective 10: By 1990, at least 90 percent of Montana children identified with lead toxicity in the 0 to 5 age group will have been brought under medical and environmental management.

Objective 11: By 1990, Montanans should have access to an acute care facility with the capability to provide or make referrals for screening, diagnosis and treatment of suspected exposure to toxic agents.

Objective 12: By 1990, Montanans residing in an area of a population density greater than 20 per square mile, or an area of particularly high risk, should be protected by an early warning system to detect environmental hazards posing serious imminent health threats.

Objective 13: By 1990, every populated area in Montana should be reachable within 6 hours by an emergency response team in the event of exposure to an environmental hazard posing an acute health threat.

Objective 14: By 1990, at least 75 percent of all Montana city council members in urban communities should be able to report accurately whether the quality of their air and water has improved or worsened over the decade and to identify the principal substances of concern.

Objective 15: By 1990, Montana should develop contingency plans (regarding pesticides with adverse chronic effects) to educate user groups and the public; re-evaluate pesticide registrations (SLN and State/Fed); monitor residues in food and the environment; detect and enforce misuse; dispose of identified hazardous materials; and identify those suspect chemicals in the state interest.

Objective 16: By 1990, all handlers of hazardous waste that are subject to regulation will be under the Montana Hazardous Waste Act.

Objective 17: By 1990, clear labeling as to content, directions for proper use and disposal, and factors making an individual especially susceptible should be

placed on all potentially toxic products sold commercially or used industrially in Montana.

Objective 18: By 1990, the prevalence of lead toxicity among children ages 0 to 5 should be eliminated from virtually all Montana communities.

TOXIC AGENT CONTROL

Objective 1: By 1990, virtually all wastewater management or process water systems established after 1980 should be in substantial compliance with Montana surface and ground water quality standards and/or federal effluent guidelines.

Rationale: It is the public policy of this state to conserve water by protecting, maintaining and improving the quality and potability of water for public water supplies, wildlife, fish and aquatic life, agriculture, industry, recreation and other beneficial uses and to provide a comprehensive program for the prevention, abatement and control of water pollution.

Discussion: In order to carry out this policy, the state must establish and maintain water quality standards sufficient to protect the various beneficial uses of water.

Continued water quality monitoring of pollutant sources and water resources sufficient to verify water quality standards are being maintained.

Current status of Montana water quality is reviewed in the 1984 Montana 305(b) report, "Water Quality in Montana, 1984."

* * * * *

Objective 2: By 1990, virtually all of Montana's community public water systems should meet Federal and State standards for safe drinking water.

Rationale: The primary goal of the Water Quality Bureau's Public Water Supply Program is to assure that the water served to the public by public water supplies is safe for human consumption.

Discussion: 627 community public water supplies serve approximately 80 percent of Montana's population. Of these systems 11 violate the turbidity MCL; 117, the bacteriological MCL and 19 one or more MCL's for chemicals and radiological contaminants. Many more violate the regulations in regard to monitoring requirements.

Continued monitoring of public water supplies as required by state and federal regulations.

* * * * *

Objective 3: By 1990, virtually all Montana communities should be meeting all Montana and federal primary ambient air quality standards.

Rationale: The primary goal of the Air Quality Bureau is to assure that the public enjoys clean ambient air. The goal is achieved by setting ambient air quality standards and then meeting them.

Discussion: As of 1984, the following number of sites exceeded standards:

<u>Pollutant</u>	<u>MT Std.**</u>	<u>Fed. Primary</u>	<u>Pollutant</u>	<u>MT Std.</u>	<u>Fed. Primary</u>
Carbon monoxide	3	3	Lead	1	1
Sulfur dioxide	1	0	Hydrogen sulfide	1	NA
Fluorides	1	NA	Particulates	9	3

Montana should continue monitoring in communities which are exceeding the ambient air quality standards and establish new monitoring sites in previously unmonitored areas. In order to achieve this, more monitoring equipment is needed. Monitoring sites should not be deleted when they are in compliance, and all sites which need to be monitored should be.

- * Hydrocarbon was dropped from the federal rules about a year and a half ago.
- * In some cases the Montana standards are more stringent than the federal standards.

* * * * *

Objective 4: By 1990, all hazardous waste treatment, storage and disposal facilities in Montana will be licensed.

Rationale: The health and environment in the state will be protected by having complete information on hazardous wastes in the state.

Discussion: Currently there are 10 treatment, storage and disposal facilities in Montana.

An inventory of hazardous waste generators is needed.

* * * * *

Objective 5: To refine present monitoring efforts within the environmental sciences division and continue to coordinate and incorporate these efforts through 1990.

Rationale: The continued refinement of the ESD's environmental health monitoring system will create a background source of scientific information which will provide an accurate indication of the quality of the environment and assist in cases of early identification of problems.

Discussion: Each bureau within the Environmental Sciences Division should retain its individual monitoring data and continue to refine and coordinate the monitoring efforts.

OCCUPATIONAL HEALTH AND SAFETY

Summary of the Problem:

Many of Montana's workers are exposed to occupational health hazards: carcinogenic agents, pulmonary or other physical disease incitants, physical agents or job-related pressures of noise, crowding or stress. Exposure to toxic chemicals or physical hazards can produce chronic lung disease, cancer, degenerative disease in various organs, birth defects and genetic changes. Yet many workers remain inadequately protected from common work-place hazards.

Objectives

Occupational health services in Montana are carried out by agencies under federal contracts and grants and their objectives are determined by law, regulation and contract provisions.

ACCIDENT PREVENTION AND INJURY CONTROL

Summary of the Problem:

Montanans, like other Americans, are dying in increasing numbers as a result of accidental injuries -- most of them from motor vehicle accidents. Falls, burns, drowning and other causes make up the rest. Injuries are the leading cause of death between ages 1 and 44, and account for the majority of the fatalities for those between 15 and 24. Further, uncounted numbers suffer non-fatal accidental injuries requiring medical treatment.

Accident victims are not distributed evenly throughout the population. Teen-agers and young adults have the highest motor vehicle death rate; fatal falls, which occur primarily in the home, disproportionately affect the population aged 75 and over; and children 10 years and younger are a high risk population for burns.

Accident prevention programs should be based on epidemiological documentation of injury problem areas at the state and local levels. Prevention measures include public education, skill development, safety engineering, environmental modification, legislation, regulation, and enforcement.

ACCIDENT PREVENTION AND INJURY CONTROL

Priority Objectives

Objective 1: By 1990, the Montana motor vehicle fatality rate should be reduced to 24 per 100,000.

Objective 2: By 1990, the home accident fatality rate for Montana children under 15 should be no greater than 5.0 per 100,000; the mortality rate from falls among the general population should be reduced to no more than 2 per 100,000.

Objective 3: By 1990, residential fire deaths should be reduced.

Objective 4: By 1990, at least 75 percent of communities with a population of 2500 or more, should receive an initial EMS response within 10 minutes or less of a call.

Objective 5: By 1990, the Montana motor vehicle fatality rate for children under 15 should be reduced to no greater than 5.0 per 100,000 children.

Other Objectives

Objective 6: Through 1990, continue the Montana Poison Control System and increase the amount of public information and education regarding the use of the system.

Objective 7: By 1990, virtually all Montana primary health care providers should advise patients about the importance of safety belts and should include instructions about the use of child restraints to prevent injuries from motor vehicle accidents as part of their routine interaction with parents.

Objective 8: By 1990, Montana EMS system will have a detailed and uniform mechanism of reporting injuries, prehospital and in-hospital, and correlated with other EMS system data elements.

Objective 9: To assure that local medical personnel are well trained in the initial stabilization of the trauma, burn and spinal cord injured patient, and that secondary transportation networks are well established to transfer individuals to such centers when appropriate.

Objective 10: By 1990, the mortality rate for drowning should be reduced to no more than 2.0 per 100,000 persons.

Objective 11: By 1990, the number of tap water scald injuries requiring hospital care should be reduced to no more than 10 per year.

Objective 12: By 1990, all Montana health facilities will ensure that at least 50 percent of newborns return home in a certified child passenger carrier.

Objective 13: By 1990, the proportion of automobiles containing automatic restraint protection should be greater than 75 percent.

ACCIDENT PREVENTION AND INJURY CONTROL

Objective 1: By 1990, the Montana motor vehicle fatality rate should be reduced to 24 per 100,000.

Rationale: With some behavior changes - seat belt use, driving without drinking, non-smoking - Montanans have the potential, in combination with technology, of changing the motor vehicle fatality rate drastically.

Discussion: In 1983, the Montana motor vehicle fatality rate was 32.7 per 100,000. In 1982, the Montana motor vehicle fatality rate was 29.5 (236 total) per 100,000. In 1981, the rate was 38.8 (308 total) per 100,000. The rate is still beyond a tolerable level. Alcohol-related motor vehicle accidents and injuries account for an estimated +65 percent of all automobile crashes and fatalities in Montana. Only 12 percent of all Americans use seat belts.

* * * * *

Objective 2: By 1990, the home accident fatality rate for Montana children under 15 should be no greater than 5.0 per 100,000; the mortality rate from falls among the general population should be reduced to no more than 2 per 100,000.

Rationale: The Montana rate is quite high compared to national rates. Home accidents can be prevented to a large degree with awareness and education on home safety procedures.

Discussion: While accidental death was the fourth leading cause of death (471 fatalities in 1982), the cause specific death rate for accidents dropped to an all-time low of 58.8 deaths per 100,000. The rate is a 16 percent drop from the 1981 rate.

* * * * *

Objective 3: By 1990, residential fire deaths should be reduced.

Rationale: Compliance with fire codes, fire prevention education, and the installation of fire alarms will reduce fire deaths.

Discussion: Montana Department of Health & Environmental Sciences -- Bureau of Records and Statistics:

1978	Population	785,000	Deaths	16	2.0/100,000
1979	"	786,000	"	24	3.1/100,000
1980	"	786,690	"	15	1.9/100,000
1981	"	793,000	"	13	1.6/100,000
1982	"	801,000	"	10	1.2/100,000
1983	"	817,000	"	19	2.3/100,000

* * * * *

Objective 4: By 1990, at least 75 percent of communities with a population of 2500 or more, should receive an initial EMS response within 10 minutes or less of a call.

Rationale: A community base of 2500 is realistic in rural Montana. Since most ambulances have a response time of 4-6 minutes, this goal is realistic for incorporated areas. With Quick Response Units, an EMS system response is a better goal than simply an ambulance response.

Discussion: Since the termination of federal grant funding, ambulance trip reports have not been analyzed by computer. Quick Response Units, other first response units and, eventually, Advanced Life Support Units should be a part of the data base.

★ ★ ★ ★ ★

Objective 5: By 1990, the Montana motor vehicle fatality rate for children under 15 should be reduced to no greater than 5.0 per 100,000 children.

Rationale: Since children under 15 years of age are passengers and not necessarily drivers of motor vehicles, safety protection should be afforded in terms of education to assure seat belt usage and defensive driving skills. Further, societal costs, due to premature years lost, is greatest among our young citizens.

Discussion: In 1982, the Montana mortality rate due to motor vehicle accidents for children under 15 years of age was 5 per 100,000. Motor vehicle accidents are the leading cause of death for children, birth to 15 years of age.

ORAL HEALTH

Summary of the Problem:

Tooth decay, which affects 80 percent of school aged children and 95 percent of the adult population of Montana citizens, is our most prevalent health problem. It costs an estimated \$75 million yearly for treatment. Periodontitis and gingivitis affect nearly 98 percent of the adult population, causing the number one reason for lost teeth.

Dental disease prevention embodies the spectrum of many activities including the school-based fluoride mouth rinse, screening, and education; fluoridation of municipal and school water supplies; education in personal oral hygiene and diet conducive to good oral health; assessment data of the dental health status; and prevention programs targeted to reduce adult periodontal and gingival disease.

The number of children participating in the fluoride mouth rinse has increased steadily since the introductory program in Flathead County in 1971-72. The number of persons on fluoridated water, either natural or added, has remained static over the past 10-15 years at approximately 29 percent of the Montana population. At present, the most effective and cost beneficial intervention are the fluoride programs involving water supply and/or school-based mouth rinse programs.

ORAL HEALTH

Priority Objectives

Objective 1: By 1990, 95 percent of all school children K-6 should receive the benefits of a three pronged education, screening and fluoride mouthrinse program, reducing decay in adult teeth for children at 12 years of age to 40 percent.

Objective 2: By 1990, all communities in Montana with over 2,000 population should be on an optimally fluoridated water supply.

Objective 3: By 1990, continued exposure of 100 percent of Head Start, kindergarten, 2nd and 5th grade children to education in personal oral hygiene and proper dental diet and proper human nutrition.

Objective 4: By 1990, improve the screening system already in place in Montana to determine periodic status of oral health, dental treatment needs based on demand, and utilization of dental services.

Objective 5: By 1988, an adult gingivitis and periodontitis prevention program should be established in Montana.

Other Objectives

Objective 6: By 1990, education in schools and the work places should tell what foods are highly cariogenic and the proper instruction on how to remove cariogenic foods from the teeth when eaten.

Objective 7: By 1990, all participants in organized contact sports (namely football, wrestling, soccer, hockey, boxing, and basketball) be required to wear proper mouth guards.

Objective 8: By 1990, the prevalence of gingivitis in children 6-12 years should be kept at the present level of less than 5 percent.

Objective 9: By 1985, dental prevention measures of high priority should be implemented with a plan of action, including an evaluation component measuring progress.

Objective 10: By 1990, at least 95 percent of school children living in a fluoride-deficient area should be participating in a school-based fluoride mouthrinse program.

ORAL HEALTH

Objective 1: By 1990, 95 percent of all school children K-6 should receive the benefits of a three pronged education, screening and fluoride mouthrinse program, reducing decay in adult teeth for children at 12 years of age to 40 percent.

Rationale: A successful program is already in place in Montana. Continuation of the program should improve present results of the program.

Discussion: The program is in place in 46 counties in Montana at present. 330 schools are mouthrinsing, along with education and screening. 66 more schools which have optimum fluoride in their drinking water are participating in education and screening programs.

* * * * *

Objective 2: By 1990, all communities in Montana with over 2,000 population should be on an optimally fluoridated water supply.

Rationale: Fluoridation is the most cost-effective in cities with populations over 2,000. Most rural towns under 2,000 have many persons with private wells and the cities have numerous well heads, therefore, making it not cost-effective.

Discussion: Legislative support of the program would improve the success and survival of the program.

* * * * *

Objective 3: By 1990, continued exposure of 100 percent of Head Start, kindergarten, 2nd and 5th grade children to education in personal oral hygiene and proper dental diet and proper human nutrition.

Rationale: Behavioral change to enhance personal hygiene is most important and effective in early childhood.

Discussion: This program affords an informational opportunity to address the benefits of fluoridation.

* * * * *

Objective 4: By 1990, improve the screening system already in place in Montana to determine periodic status of oral health, dental treatment needs based on demand, and utilization of dental services.

Rationale: The system involves public and private dental sectors that direct attention to areas of demanded need.

Discussion: The present system needs review to become more comprehensive. The system needs to provide information like numbers of children with decay, orthodontic problems, or other oral diseases or difficulties.

* * * * *

Objective 5: By 1988, an adult gingivitis and periodontitis prevention program should be established in Montana.

Rationale: Gingivitis and periodontitis occur most often in persons of working age or working status, and could be best addressed through the work site setting or by the private dental sector.

Discussion: Although it is not substantiated, Montanans are expected to have a high degree of periodontitis and gingivitis in later years. Some have attributed this speculation to high calcium-lime water concentrates and the lack of good public education regarding these diseases.

SURVEILLANCE AND CONTROL OF INFECTIOUS DISEASES

Summary of the Problem:

Infectious diseases surveillance and control are clearly a cost-effective preventive action. Montana has had deaths from hepatitis, influenza, meningitis, pneumonia, salmonellosis, toxic-shock syndrome and tuberculosis during the last four years.

It is estimated that there will be enough cases of infectious diseases in Montana in any given year to allow each citizen to suffer morbidity from at least one such illness. Work productivity and increased health care costs are high for infectious diseases. This is true even for those infectious diseases with low mortality rates. Surveillance and control of infectious diseases is a very cost effective method of preventing secondary spread and breaking the chain of transmission. Most diseases identified today are amenable to control efforts.

SURVEILLANCE AND CONTROL OF INFECTIOUS DISEASES

Priority Objectives

Objective 1: Decrease the number of new cases of tuberculosis by at least 5 percent per year. (New case number of 18 or below is estimated for 1990.).

Objective 2: By 1990, surveillance and control systems in Montana should be capable of responding to and containing: 1) newly recognized diseases and unexpected epidemics of public health significance; and 2) infections introduced from foreign countries.

Objective 3: By 1990, establish a surveillance and investigation program within the Montana Department of Health and Environmental Sciences to deal exclusively with nosocomial infections.

Objective 4: By 1990, the Montana Department of Health and Environmental Sciences should be linked to federal health agencies for collection, analysis and dissemination of surveillance data, rapid communication of messages, and epidemic aid investigations by means of the MINET system.

Objective 5: By 1990, the annual incidence rate of hepatitis B should be less than 20/100,000 or less than 150 new cases per year by 1990.

Other Objectives

Objective 6: Maintain the annual estimate incidence of bacterial meningitis at 3/100,000.

Objective 7: By 1990, data reporting systems in Montana should be able to monitor trends of common infectious agents not now subject to traditional public health surveillance (respiratory illnesses, gastrointestinal illnesses, otitis media) and to measure the impact of these agents on health care cost and productivity at the local and state level.

Objective 8: By 1990, the extent of epidemics of respiratory and enteric viral illnesses should be predicted within 2 weeks after they appear through community wide surveillance systems.

Objective 9: By 1990, Montana Department of Health and Environmental Sciences should be linked to the national data system for monitoring infectious agents and antibiotic resistance patterns and for disseminating information.

Objective 10: Maintain a low incidence rate by providing educational information supporting the use of pneumococcal vaccine in the high risk.

Objective 11: Ensure the continuation of the high quality immunization services.

SURVEILLANCE AND CONTROL OF INFECTIOUS DISEASES

Objective 1: Decrease the number of new cases of tuberculosis by at least 5 percent per year. (New case number of 18 or below is estimated for 1990.).

Rationale: Tuberculosis continues to be the leading cause of death among communicable diseases. While hospitalization is neither desirable or recommended, many cases were hospitalized for an average of 4 days in 1984. Treatment of an uncomplicated case without hospitalization is approximately \$1,350.00 to \$1,500.00 per person.

Discussion: While the total state incidence rate for new cases is 6/100,000, the new case incidence for American Indians is approximately 11/100,000. This should be reduced to 8/100,000 by 1990, but could conceivably be reduced to 4.8 cases, if the American Indian population continues to be one-half of the total number of cases reported in Montana.

The new case number declined by 53 percent opposed to 5 percent nationally between 1983 and 1984. If such decline were to continue, new cases of tuberculosis in Montana could be eliminated by 1989.

While it is currently assumed all newly diagnosed cases are reported to MDHES, it is assumed only 10 percent of other reportable diseases are reported. A concerted surveillance program similar to that for measles should be employed during 1985 to insure reporting of new TB cases is actually 100 percent. This would require $\frac{1}{2}$ FTE. A $\frac{1}{2}$ FTE employee could also ensure complete follow-up of each case to insure the stoppage of transmission between the infected and uninfected.

* * * * *

Objective 2: By 1990, surveillance and control systems in Montana should be capable of responding to and containing: 1) newly recognized diseases and unexpected epidemics of public health significance; and 2) infections introduced from foreign countries.

Rationale: The ultimate objective of disease surveillance is to determine the extent of infections and the risk of disease transmission so control measures can be applied effectively and efficiently. Surveillance data must be current and complete to disclose the occurrence and distribution of disease. There are two principal reasons for conducting surveillance when control measures are not available: 1) to increase knowledge of the reservoir and the modes of transmission; and 2) to assess the effect of control measures when they are available.

Discussion: At this time the accuracy of reporting in Montana is not known. It is estimated that approximately 10 times the number of reported cases occur when a passive reporting system is in place. In 1983 diseases reported in Montana included 1,216 cases of gonorrhea, 33 cases of hepatitis A, 21 cases of hepatitis B, 2 hepatitis non-A, non-B, 16 cases of hepatitis unspecified, 4 cases of measles, 5 meningococcal infections, 9 cases of mumps, 119 animal rabies cases, 2 pertussis cases, 164 cases of salmonellosis, 19 cases of shigellosis, 15 cases of syphilis, 4 cases of

rubella, 47 cases of tuberculosis, 8 cases of tularemia, 8 cases of Rocky Mountain spotted fever, 1 case of toxic shock syndrome.

For the surveillance system to be responsive in implementing control measures for the reported diseases, the diseases must be reported in a timely and accurate manner. In 1986, a deliberate attempt to actively solicit reports for all reportable diseases from each county should be made to determine the current state of disease reporting.

Each state's morbidity reporting system is based upon regulations adopted by the State Board of Health which derives its authority to issue regulations from acts of the state legislature. Morbidity reporting regulations characteristically specify which diseases or conditions are reportable, who is responsible for reporting, what information is required for each case of disease reported, what manner of reporting is needed, and to whom the information is reported.

* * * * *

Objective 3: By 1990, establish a surveillance and investigation program within the Montana Department of Health and Environmental Sciences to deal exclusively with nosocomial infections.

Rationale: The Montana Department of Health and Environmental Sciences has licensing responsibilities and is often asked to make recommendations regarding prevention of nosocomial infections in licensed facilities. Nosocomial infections have been reduced by 20 percent in facilities with active programs in place. Therefore, the Department should make a concerted effort to see that the standards are implemented.

Discussion: Any data available from Licensing and Certification Bureau should be used. A content analysis of requests for assistance from Hospital and Medical Facilities to the Communicable Disease Program during the past four years should be done.

During 1987 a targeted surveillance study should be done to determine the extent of nosocomial infections in all Montana hospitals. After such an assessment is done, the priorities for implementation of standards could occur.

With hospital cost containment as an emphasis in medical care activities in Montana, the need for implementation of standards in nosocomial infection reduction could be interpreted in terms of savings per patient.

* * * * *

Objective 4: By 1990, the Montana Department of Health and Environmental Sciences should be linked to federal health agencies for collection, analysis and dissemination of surveillance data, rapid communication of messages, and epidemic aid investigations by means of the MINET system.

Rationale: Because there are many state and local agencies, there is a need to coordinate efforts and to transmit precise information several times during the day throughout the state and between states. The MINET system has been in place for approximately nine months. It is sponsored by

ATHO, and therefore, should be consistent with national reporting requirements that are imposed upon this agency for federal funding. The cost of such a program can be less expensive than either telephone calls or letters, and messages can be transmitted instantaneously over the network.

Discussion: The Montana Department of Health and Environmental Sciences did participate in the early period of transmission through the MINET system. The type of transmissions received were the early edition of the MMWR. This did prove quite useful in that we were alerted to issues before the general press and could be prepared for questions concerning controversial issues. The cost for the service at that time was minimal, but the service was discontinued when the Health Services Administration budget was discontinued.

Information concerning the general principles of MINET use have been obtained. Specific information that yet could be learned is as follows: the data bases now available through MINET, the exact charges accrued on MINET, the hours of down time that have been experienced in the history of MINET, whether or not the MINET system could be utilized with the hardware already available in the Department, the availability of service in the event of failure of the MINET system.

The GTE Telenet Medical Information Network provides a fast and reliable means of communication within the medical and health care community. Subscribers can read, send and even file messages electronically using a computer terminal. The service is designed as a universal communication system. Incoming and outgoing messages can be filed electronically within the med/mail system for an unlimited period of time. Messages of general interest can be posted on electronic bulletin boards where anyone authorized to read them may do so at his or her convenience.

* * * * *

Objective 5: By 1990, the annual incidence rate of hepatitis B should be less than 20/100,000 or less than 150 new cases per year by 1990.

Rationale: While hepatitis A is a costly disease in terms of days of activity lost, recovery is usually complete. Hepatitis B has the potential for chronic degenerative liver disease and a case fatality ratio of 50 to 1, or 2 deaths for every 100 cases.

Discussion: Approximately 20 new cases of hepatitis B have been reported during the last five years for Montana. If it is concerted that only 10 percent are reported with passive reporting, Montana has an approximate average incidence rate of 27/100,000 cases.

During the year of 1988 a special surveillance program should be initiated to determine as accurately as possible the incidence of hepatitis cases in Montana.

Diagnosticians should be supported in differentiating hepatitis types. The Montana Department of Health and Environmental Sciences could initiate a special surveillance system and hepatitis B control program to facilitate

the prompt identification of contacts and appropriate prophylaxis being given. Information systems and increased education would be a part of this directed effort towards prevention of increase in number of hepatitis E cases occurring annually.

INTRODUCTION TO THE 1990 OBJECTIVES

STATE DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES PERSPECTIVE

Introduction

This document represents a design for health policy to improve the health status of Montanans. Positive solutions to the major health problems of today lie in making lifestyle changes associated with chronic diseases. It is no longer infectious diseases that do the most harm. Heart disease, cancer, accidents and violence are the epidemics of our time. Continuing concern is expressed for the significant problems associated with pre-term labor, prematurity and perinatal disease. There is now reasonable control and maintenance for communicable diseases such as polio, diphtheria, measles and mumps.

The most reasonable course of action in the coming years is to further the attack on the behaviors that lead to premature death and disability. Although the State Department of Health and Environmental Sciences may take a lead role, the responsibility for the prevention, protection and promotion of health lies with each individual.

The "1990 Objectives for the Nation: Promoting Health, Preventing Disease" was the document chosen to draw State perspective to this challenge. The report by the Public Health Service outlined 15 priority areas with specific objectives whose attainment would significantly improve the health of the American people. These objectives were also selected because of their realization of attaining the 5 major goals of the U.S. Surgeon General.

The 15 priority areas identified in the process are grouped under these headings: Preventive Health Services, Health Protection and Health Promotion. Preventive Health Services list 5 priority areas: high blood pressure, family planning, pregnancy and infant health, immunization, and sexually transmitted disease control. Under Health Protection, the list includes toxic agent and radiation control, fluoridation and dental health, occupational safety and health, accident prevention and injury control, and surveillance and control of

infectious diseases. The final rubric, Health Promotion includes: smoking control, alcohol and drug misuse prevention, improved nutrition, physical fitness and exercise, and control of stress and violent behavior. The value of this report to the Montana community is the summary of the strategy that could be undertaken statewide for promoting health and preventing disease.

Process

The Montana version of the 1990 Objectives originated with John J. Drynan, M.D., Director of the Montana Department of Health and Environmental Sciences, and the staff of the Health Services and Medical Facilities Division of the Department. The strategy decided upon for the development and attainment of the objectives began with a review and ranking by state personnel having special interest in the particular subject area. Following the initial review, the information would be presented to a representative group of health providers statewide. This group would assist in deciding if the proposed objectives addressed the unique characteristics of Montanans in terms of perceived needs.

The process has taken the following steps:

1. Selected program personnel were asked to review each national objective in their area of interest. These people were to decide whether an objective was deserving of a high, medium or low priority for the state.
2. The review personnel were asked to explore the roles of public, private and voluntary agencies which might be instrumental in planning and implementing the objective. The statistics to support the objective and data needs were to be specified. A comment section was included to identify constraints and opportunities that could influence the attainment of objectives.
3. The individual reviewers next discussed the objectives in workgroups. In this process, each program manager presented how the objectives they developed reflect the national objective. The workgroup commented on additional objectives to assist in re-working the structure of the objective and the background for each statement.

4. A proposed statewide strategy on promoting health and preventing disease was produced. The process represents the efforts of the State Department of Health and Environmental Sciences staff to refine the 1990 Objectives into a draft document. This draft is open to additional review and input by representative groups.

The remaining steps in the process of developing the objectives are (1) a conference for broad-based input and (2) publication of a final document. Accomplishment of these steps will be as follows:

1. In the spring-summer 1985, the document will be presented at various meetings (HSA subarea councils, State Health Coordinating Council, Board of Health and Montana Legislature). At the same time, the 1990 Objectives Committee will be exploring the possibility of a two-day conference. The conference would be designed around a diverse representation of conference participants to obtain work group recommendations. If the conference begins to take shape, a subcommittee will design the pre and post conference actions necessary for a successful effort.
2. The final step would result in publication of a document representing a Montana plan for promoting health and preventing disease. The document would offer direction for health education and planning for the remainder of the decade.

PREVENTIVE HEALTH SERVICES

High Blood Pressure Control

Family Planning

Pregnancy and Infant Health

Immunization

Sexually Transmitted Disease

HIGH BLOOD PRESSURE CONTROL

Summary of the Problem:

In 1984, Approximately 22% of adult Montanans reported they had been told they had high blood pressure. Of those persons who indicated they were hypertensive, 66.3% said they had been told more than once and 33.7% reported being told only once. Only 2.3% of Montanans have an uncontrolled hypertension problem. Untreated hypertension is the single largest contributor to stroke and a major contributor to heart disease and kidney failure.

High blood pressure contributes directly or indirectly to about one million deaths a year; however, the disease is treatable. Many deaths could be prevented if high blood pressure is detected early and managed properly. Smoking-related deaths have decreased by more than 40% and deaths from kidney and heart disease have decreased significantly, much due to the result of earlier and better treatment of high blood pressure.

HIGH BLOOD PRESSURE CONTROL

Priority Objectives

Objective 1: By 1990, the prevalence of significant overweight (120% of ideal body weight) among the Montana adult population should be decreased to 10% for men and 17% for women, and the prevalence of underweight (less than 90% of ideal body weight) should be reduced to 8%. This should be accomplished without nutritional impairment.

Objective 2: By 1990, at least 60% of the high blood pressure population (above 140/90) should have attained 140/90 for two or more years.

Objective 3: By 1990, no region in Montana should be without a high blood pressure program to identify persons with high blood pressure and to follow up on their treatment.

Objective 4: By 1990, at least 75% of the adult population in Montana should be able to state the principal risk factors (high blood pressure, smoking, cholesterol) for coronary heart disease and stroke, and the effects of high sodium intake and excessive weight on blood pressure.

Objective 5: By 1990, Montana will have developed a system to assess categories of high blood pressure control in accordance with a national baseline study.

Other Objectives

Objective 6: By 1988, a system should be developed to determine the incidence of high blood pressure, coronary heart disease, congestive heart failure, and occlusive strokes.

Objective 7: By 1990, average daily intake of sodium by adults should be reduced to 3-6 grams of sodium.

Objective 8: By 1990, at least 90% of adult Montanans should be able to state whether their current blood pressure is elevated or within normal range.

Objective 9: By 1990, at least 50% of processed food in grocery stores should be labeled to show sodium and calorie content.

HIGH BLOOD PRESSURE CONTROL

Objective 1: By 1990, the prevalence of significant overweight (120% of ideal body weight) among the Montana adult population should be decreased to 10% for men and to 17% for women, and the prevalence of underweight (less than 90% of ideal body weight) should be reduced to 8%. This should be accomplished without nutritional impairment.

Rationale: Excessive body weight has been indicated in a number of health problems, especially in relation to high blood pressure and heart disease, including stroke and kidney failure. The greater the weight excess, the greater the additional risk. It does appear to be a major risk factor of adult onset of diabetes.

The 1982 Centers for Disease Control National Behavior Risk Study revealed that the underweight population has shown increased risk for cancer and anorexia nervosa. Attaining ideal body weight is one of the most important steps in prevention and self responsibility.

Discussion: Research shows that 23.4% of the adult men and 20.3% of the women were more than 120% of desired weight. In 1982, 12% of the Montana adult population was less than 90% of the desired weight.

Annual surveillance of adults should be conducted to detect excess body weight and underweight.

* * * * *

Objective 2: By 1990, at least 60% of the high blood pressure population (140/90) should have attained 140/90 for two or more years.

Rationale: Lowering high blood pressure to a normal range will reduce disease morbidity and mortality and improve Montana's health status.

Discussion: Presently, 2.3% of Montanans have self-reported uncontrolled high blood pressure. Males respond to treatment better than females. Also, college graduates and higher income individuals (\$20,000-\$34,999) respond better to treatment.

* * * * *

Objective 3: By 1990, no region in Montana should be without a high blood pressure program to identify persons with high blood pressure and to follow up on their treatment.

Rationale: The geographical distance, population dispersion, and limited resources make this objective somewhat difficult. If this became a state priority, it is felt that a voluntary system through comprehensive management could be established and maintained.

Discussion: In 1982, research indicated that 82% of Montanans had had their blood pressure checked within the last year (87% females; 73% males).

A more concentrated screening effort should be made to reach minorities, males and the underserved.

* * * * *

Objective 4: By 1990, at least 75% of the adult population in Montana should be able to state the principal risk factors (high blood pressure, smoking, cholesterol) for coronary heart disease and stroke, and the effects of high sodium intake and excessive weight on blood pressure.

Rationale: Awareness of high blood pressure risk factors should benefit Montanians and assist in making behavioral changes.

Discussion: In 1982, according to the Montana Department of Health and Environmental Sciences Risk Prevalence Study, 60% of those surveyed mentioned overweight, stress and salt as principal risk factors. Also, 30% knew that drinking, fatty foods, heredity, and smoking could increase the chances of high blood pressure.

* * * * *

Objective 5: By 1990, Montana will have developed a system to assess categories of high blood pressure control in accordance with a national baseline study.

Rationale: The data would be of value in establishing health programs, but should be administered as part of a comprehensive study model on a national level.

Discussion: A collaborative effort needs to be established at the local level with all primary health care providers. They should participate in the implementation of activities in order to assure more comprehensive high blood pressure prescription procedures, referral, and follow up.

FAMILY PLANNING

Summary of the Problem:

More than 5.8 million poor women and sexually active teenagers are unable to receive family planning services from organized clinics or private doctors.

Even the most sophisticated contraceptive methods currently in use are inadequate, with significant failure rates in actual use and potential side effects that deter many people from using them at all.

Almost 1.5 million abortions were performed last year, reflecting a high incidence of unwanted pregnancies that might have been avoided had preventive services been more readily available.

Almost 300,000 married women have unwanted births each year, most of them poor or over age 35.

Approximately 250,000 babies are born each year with congenital defects, occurring disproportionately to very young and older mothers who have the highest incidence of unintended pregnancies.

There are an estimated 44,047 women-in-need of subsidized family planning services in Montana. About 39% of these women (or 17,359) are being served by the 15 family planning programs in the State. Roughly estimated, an additional 9,317 women-in-need (or 21%) are being provided family planning services by physicians. This leaves some 17,371 Montana women needing family planning services who are not receiving them. They are at risk for unplanned children.

FAMILY PLANNING

Priority Objectives

Objective 1: By 1990, Montana students in grades 4-12 will receive age appropriate education about reproductive health (including contraception instruction) in school on a scheduled basis. In addition, at least 100 hours each of quality prime time radio and television announcements, commercials and programs to improve reproductive health will be provided in Montana annually.

Objective 2: By 1990, reduce unintended pregnancies among Montana women 15-44 by 50% of the present rate.

Objective 3: By 1990, the availability of family planning information and methods (education, counseling and medical services) to all Montana women and men should have sufficiently increased to reduce by 50 percent the disparity between Montanans of different economic levels in their ability to avoid unplanned pregnancies.

Objective 4: By 1990, at least 75 percent of Montana men and women over the age of 14 should be able to describe accurately the various contraceptive methods, including the relative safety and effectiveness of one method versus the others.

Objective 5: By 1990, sales in Montana of oral contraceptives containing more than 50 micrograms of estrogen should have been reduced to 15% of total sales or less.

Other Objectives

Objective 6: By 1990, there should be virtually no unintended pregnancies to girls 14 years old or younger in Montana.

Objective 7: By 1990, the Montana fertility rate for 15 year old girls should be less than 10 per 1,000.

Objective 8: By 1990, the Montana fertility rate for 16 year old girls should be less than 25 per 1,000.

Objective 9: By 1990, the Montana fertility rate for 17 year old girls should be less than 45 per 1,000.

Objective 10: 100 percent of Montana's federally funded Title X family planning programs will continue to have an established routine for providing an initial infertility assessment either directly or through referral.

FAMILY PLANNING

Objective 1: By 1990, Montana students in grades 4-12 will receive age appropriate education about reproductive health (including contraception instruction) in school on a scheduled basis. In addition, at least 100 hours each of quality prime time radio and television announcements, commercials and programs to improve reproductive health will be provided in Montana annually.

Rationale: The mass media are the greatest source of communication for this age group, and the media also reaches parents and community leaders. A required family life education curriculum in school districts statewide would result in improved knowledge of reproductive health.

Discussion: Education about reproductive health is the key to prevention of unintended pregnancy, and there is a desperate need for the establishment in Montana of a statewide network for education about reproductive health. Funding sources and providers should focus on the development of objectives under the umbrella goal: To promote and provide education about reproductive health. The availability and cost of prime time media would pose constraints in achieving this objective, but it is of the highest importance. The use of "hot line" information and referral numbers would insure the widest dissemination of information about reproductive health. The dissemination of such information is considered critical, especially in areas of the state where there is opposition to providing reproductive health information in the schools. The availability of adequate funding for these activities was considered the primary constraint in attaining this objective, but legislative support may be required to achieve the objective.

* * * * *

Objective 2: By 1990, reduce unintended pregnancies among Montana women 15-44 by 50% of the present rate.

Rationale: Reduction of unintended pregnancies can improve the economic, social, and health status of individuals.

Discussion: Unintended pregnancies should not be limited only to single women, but should be reduced for all women. Low income women should receive priority. Funds for education, services, and monitoring are major constraints.

* * * * *

Objective 3: By 1990, the availability of family planning information and methods (education, counseling and medical services) to all Montana women and men should have sufficiently increased to reduce by 50 percent the disparity between Montanans of different economic levels in their ability to avoid unplanned pregnancies.

Rationale: Controlling fertility has positive economic, social and health benefits.

Discussion: The goal of family planning programs is to assure all couples have access to services to enable them to voluntarily control their fertility regardless of income. Priority is given to low income women. Increased funding for family planning programs is necessary in order to meet this objective.

* * * * *

Objective 4: By 1990, at least 75 percent of Montana men and women over the age of 14 should be able to describe accurately the various contraceptive methods, including the relative safety and effectiveness of one method versus the others.

Rationale: Education regarding contraceptive methods is the key to prevention of unintended pregnancies.

Discussion: Age appropriate education about reproductive health (including contraception instruction) is not available statewide in schools and churches on a scheduled basis.

* * * * *

Objective 5: By 1990, sales in Montana of oral contraceptives containing more than 50 micrograms of estrogen should have been reduced to 15% of total sales or less.

Rationale: "In almost no instance should a woman be started on pills with more than 50 mcg of estrogen." (Contraceptive Technology 1984-1985). The estrogenic component of the pill is responsible for most of the major pill-associated complications and for many of the minor side effects which may lead to pill discontinuation (Contraceptive Technology 1984-1985).

Discussion: Monitoring of pharmaceutical companies regarding the percent of oral contraceptives dispensed/sold in Montana will allow data gathering efforts.

PREGNANCY AND INFANT HEALTH

Summary of the Problem:

The 1983 Montana infant mortality rate declined to a record low of 9 infant deaths per 1,000 births. There were 60 neonatal deaths and 66 postneonatal deaths in 1983 in Montana.

From 1974-1983, Montana's infant mortality dropped from 16.5 to 9 per 1,000 live births. The factors underlying improvements in infant mortality are complex, but include increased availability of regionalized intensive care units, increased access to prenatal services, public information and education, and improvements in maternal nutritional status.

The principal threats to infant health are birth defects that can lead to lifelong handicapping conditions, and problems associated with low birth weights. Today, an estimated 7 percent of all babies are of low birth weight.

In the U.S. in 1978, 1 in 4 women giving birth made no prenatal visit during the first trimester and 1 in 20 made no prenatal visit during the first two trimesters. In Montana in 1983, it is estimated there were 3,000 women with inadequate prenatal care.

PREGNANCY AND INFANT HEALTH

Priority Objectives

Objective 1: By 1990, low birth weight babies in Montana (5½ pounds and under) should constitute no more than 2.8 percent of all live births.

Objective 2: By 1990, the incidence in Montana of infants born with Fetal Alcohol Syndrome should be reduced by 25 percent.

Objective 3: By 1990, virtually all women and infants in Montana should be served at levels appropriate to their need by a regionalized system of primary, secondary and tertiary care for prenatal, maternal and perinatal health services.

Objective 4: By 1990, virtually all Montana women who give birth should have appropriately attended, safe delivery, provided in ways acceptable to them and their families.

Objective 5: By 1990, no Native American populace in Montana should have an infant mortality rate in excess of 7 deaths per 1,000 live births.

Other Objectives

Objective 6: By 1990, the maternal mortality rate in Montana should not exceed 5 per 100,000 live births for any county or for any ethnic group.

Objective 7: By 1990, the incidence of neural tube defects in Montana should be reduced to 1.0 per 1,000 live births.

Objective 8: By 1990, in Montana the proportion of women in any county or racial or ethnic groups who obtain no prenatal care during the first trimester of pregnancy should not exceed 5 percent.

Objective 9: By 1990, in Montana Rhesus hemolytic disease of the newborn should be reduced to below a rate of 1.3 per 1,000 live births.

Objective 10: By 1990, no Montana county and no racial or ethnic group in Montana should have a rate of low birthweight infants that exceeds 3 percent of all live births.

Objective 11: By 1990, 95 percent of Montana's women of childbearing age should be able to choose foods wisely and understand the hazards of smoking, alcohol, pharmaceutical products and other drugs during pregnancy and lactation.

Objective 12: By 1990, the majority of infants in Montana should leave hospitals in car safety seats.

Objective 13: By 1990, Montana should have a system in place for comprehensive and longitudinal assessment of the impact of a range of prenatal factors (e.g., maternal exposure to radiation, ultrasound, dramatic temperature change, toxic agents, smoking, use of alcohol or drugs, exercise, or stress) on infant and child physical and psychological development.

Objective 14: By 1990, virtually all infants in Montana should be able to participate in primary health care that includes well child care; growth development assessment; immunization, screening, diagnosis and treatment for conditions requiring special services; appropriate counseling regarding nutrition, automobile safety, and prevention of other accidents such as poisonings.

Objective 15: By 1990, virtually all pregnant women in Montana at high risk of having a fetus with a condition diagnosable in utero, should have access to counseling and information on amniocentesis and prenatal diagnosis, as well as therapy as indicated.

Objective 16: By 1990, Montana's infant mortality rate (deaths for all babies up to one year of age) should be reduced to no more than 6 deaths per 1,000 live births.

Objective 17: By 1990, the neonatal death rate (deaths for all infants up to 28 days old) in Montana should be reduced to no more than 3 deaths per 1,000 live births.

PREGNANCY AND INFANT HEALTH

Objective 1: By 1990, low birth weight babies in Montana (5½ pounds and under) should constitute no more than 2.8 percent of all live births.

Rationale: Prematurity is the leading cause of infant morbidity and mortality.

Discussion: Need to practice state-of-the-art medicine and prevent 1/2 of preterm labors, i.e., employment of contemporary methods. Educational programs directed at pregnant women and primary health care providers is the responsibility of the State MCH program and should be supported by State general funds.

* * * * *

Objective 2: By 1990, the incidence in Montana of infants born with Fetal Alcohol Syndrome should be reduced by 25 percent.

Rationale: One out of 10 mentally retarded children are attributed to FAS. One out of 10 cleft patients are a result of FAS. An unknown number of cardiac patients are a result of FAS. Fetal alcohol syndrome is totally preventable!

Discussion: The MCH program at the State level must increase the effort in taking the lead in provider and consumer education.

* * * * *

Objective 3: By 1990, virtually all women and infants in Montana should be served at levels appropriate to their need by a regionalized system of primary, secondary and tertiary care for prenatal, maternal and perinatal health services.

Rationale: Infants of high risk pregnancies do much better if delivered in Level III hospitals as opposed to Level II hospitals and similarly in Level II hospitals as opposed to Level I hospitals. The infant's stay is 1/3 as long and the cost is 1/3 less than if born in a Level II hospital and transported to a Level III hospital.

Discussion: State supported professional education and transport support is an absolute must. This regionalization concept has been one of the

major thrusts of IPO during its 5 years of existence (1979-1984). Activities to maintain regionalization must continue.

* * * * *

Objective 4: By 1990, virtually all Montana women who give birth should have appropriately attended, safe delivery, provided in ways acceptable to them and their families.

Rationale: Home deliveries need to meet safe levels of care. Hazards of birth are higher with home deliveries. Alternate birthing centers are preferable to home deliveries.

Comments: The State of Montana should provide delivery/medical care for women who cannot afford hospitalization. High risk pregnancies should be identified and treated adequately. Educational programs need to be developed and disseminated among the general public regarding the increased risk of utilizing non-licensed lay midwives.

Neither the social or economic circumstance nor the geographical location of mothers should dictate the level of care.

* * * * *

Objective 5: By 1990, no Native American populace in Montana should have an infant mortality rate (IMR) in excess of 7 deaths per 1,000 live births.

Rationale: The infant mortality rate for Indian infants has been excessive.

IMMUNIZATION

Summary of the Problem:

The seven major childhood diseases -- measles, mumps, rubella, polio, diphtheria, pertussis, and tetanus -- can cause permanent disability and, in some cases, death. They all can be prevented by immunization. Prior to the National Childhood Immunization Initiative of 1977 more than one-third of all children under age 15 were not properly protected. Since 1977, two major advances have been made: (1) All states now have school and most day care immunization requirements; (2) the immunization status of these children has risen to over 90%.

Outbreaks of measles and pertussis, and occasionally diphtheria and polio, during the early 1980's indicate that immunization must be emphasized continually. With the combination of safe, effective vaccines, public and private programs, and a reliable disease surveillance and outbreak containment system, infectious disease can be controlled. Also, even though vaccines are now available to reduce the risk of influenza, hepatitis B, and pneumococcal pneumonia, many high risk patients are not protected.

IMMUNIZATION

Priority Objectives

Objective 1: By 1990, reported cases of these vaccine preventable diseases will be:

- a. Measles: Maintained to less than 5 cases per year.
- b. Mumps: Maintained to less than 5 cases per year.
- c. Rubella: Maintained to less than 5 cases per year.
- d. Congenital Rubella Syndrome (CRS): Maintained at 0 cases per year.
- e. Diphtheria: No more than one case per year.
- f. Pertussis: Maintained to less than 5 cases per year.
- g. Tetanus: No more than one case per year.
- h. Polio: Maintain paralytic polio at 0 cases per year.

Objective 2: By 1990, all mothers of newborns should receive instruction prior to leaving the hospital or after home births on immunization schedules for their babies.

Objective 3: By 1990, at least 90 percent of all children should have completed their basic series by age 2 -- measles, mumps, rubella, polio, diphtheria, pertussis and tetanus.

Objective 4: By 1990, 97% of children in licensed day care and kindergartens through grade 12 should be fully immunized and 100% should be in compliance with state law.

Objective 5: By 1990, an immunizable disease reporting/surveillance system should be in place with 100 percent of reported, suspected and confirmed cases logged and investigated within 24 hours as appropriate.

Other Objectives

Objective 6: By 1990, influenza and pneumococcal vaccines should be available to high risk populations through local public health agencies.

Objective 7: By 1990, at least 50 percent of people in populations designated as targets by the ACIP should be immunized within 5 years of licensure of new vaccines for routine clinical use.

Objective 8: By 1990, mass immunization campaigns shall use delivery systems already in place, and shall adopt plans to individual situations.

Objective 9: By 1990, all persons should obtain and maintain an up-to-date official immunization record from their health care provider.

Objective 10: By 1990, no comprehensive health insurance policies should exclude immunizations.

IMMUNIZATION

Objective 1: By 1990, reported cases of these vaccine preventable diseases will be:

- a. Measles: Maintained to less than 5 cases per year.
- b. Mumps: Maintained to less than 5 cases per year.
- c. Rubella: Maintained to less than 5 cases per year.
- d. Congenital Rubella Syndrome (CRS): Maintained at 0 cases per year.
- e. Diphtheria: No more than one case per year.
- f. Pertussis: Maintained to less than 5 cases per year.
- g. Tetanus: No more than one case per year.
- h. Polio: Maintain paralytic polio at 0 cases per year.

Rationale: All the above diseases are virtually preventable through appropriate immunization of children and susceptible adults.

Discussion: All of these diseases are at all time low levels due to health protection activities such as passage of school and day care requirements, and ensuring children are immunized appropriate for their age. Reported care for each of the diseases since are:

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Measles	2	0	0	4
Mumps	42	13	8	5
Rubella	44	3	7	4
CRS	0	0	0	0
Diphtheria	0	1	0	0
Pertussis	3	12	1	2
Tetanus	0	0	0	0
Polio	0	0	0	0

A high ranking is given to this objective, since morbidity reports over the past 10-15 years have demonstrated that vaccines are cost effective. However, even though the vaccines are effective, some morbidity is inevitable due to immigration. The attainment of these objectives depends on the resources available to maintain low levels of morbidity.

* * * * *

Objective 2: By 1990, all mothers of newborns should receive instruction prior to leaving the hospital or after home births on immunization schedules for their babies.

Rationale: This objective emphasizes the first major opportunity to inform mothers of newborns about the importance of immunizations.

Discussion: This objective is currently being met in Montana. Achieving the 1990 objective, however, is dependent upon resources increasing with corresponding population growth.

Currently, 60 out of 61 hospitals distribute the SDHES educational packet to the new mothers.

A need for an anticipated birth rate for future years would be useful.

* * * * *

Objective 3: By 1990, at least 90 percent of all children should have completed their basic series by age 2 -- measles, mumps, rubella, polio, diphtheria, pertussis and tetanus.

Rationale: Early vaccination will maintain small numbers of susceptibles from religious or medical contraindications, thus low morbidity.

Discussion: Several random sample surveys have been done in Montana with resultant levels at or near the 90% goal.

Accurate methods need to be developed to determine immunization status of two year olds.

Resources are a major constraint in attaining this objective. Since approximately 70% of all Montana children are immunized through their private physician, major responsibility of attaining this objective falls on the private physician.

* * * * *

Objective 4: By 1990, 97% of children in licensed day care and kindergartens through grade 12 should be fully immunized and 100% should be in compliance with state law.

Rationale: This is ranked high because the Legislature and health officials regard immunizations as imperative for protecting the children of Montana. In addition, day care facilities and schools provide access to immunization record audits to identify incomplete records.

Discussion: Annual random surveys currently conducted reflect at least 90% of all children in day care and kindergarten through 12th grade are fully immunized.

The attainment of this objective depends on the cooperation of public and private health providers. There is a need to educate health providers about Montana immunization regulations, recommended schedules, and reportable diseases.

* * * * *

Objective 5: By 1990, an immunizable disease reporting/surveillance system should be in place with 100 percent of reported, suspected and confirmed cases logged and investigated within 24 hours as appropriate.

Rationale: The purpose of this objective is to implement a system to control outbreaks of disease. A high ranking is assigned because it is imperative that control measures be established to interrupt the "chain of transmission of disease."

Discussion: Currently, a predominantly passive surveillance system exists in Montana. This system has identified very low levels of morbidity of these vaccine preventable diseases.

An accurate surveillance system needs to be established at local health levels in order to help verify if these low morbidity levels are accurate or not.

Execution will require a greater effort by local public health departments in order to complete investigations within 24 hours.

SEXUALLY TRANSMITTED DISEASES

Summary of the Problem:

Nationally, over 10 million cases of sexually transmitted diseases (STD) occur annually, 96 percent of them in the 15-to-29 year olds. The most common STDs are trichomoniasis, gonorrhea, non-gonococcal urethritis, genital herpes, and syphilis. In 1950 the reported syphilis rate was 146 per 100,000. The rate decreased to 30 per 100,000 by 1978, resulting in approximately 80,000 new cases of syphilis per year. During the same time span the gonorrhea rate increased from 192 cases per 100,000 to 468 cases per 100,000. In each year between 1967 and 1976, reported cases of gonorrhea increased between 10 and 15 percent. Between 1976 and 1978 the annual increase was less than 1 percent; but the total number of cases of gonorrhea still exceeded 2.5 million. In addition to the large number of syphilis and gonorrhea cases, 3 million cases of trichomoniasis, 2.5 cases of non-gonococcal urethritis, and 500,000 cases of genital herpes occur annually. The most serious complication caused by sexually transmitted agents are pelvic inflammatory disease, sterility, infant pneumonia, infant death, birth defects, and mental retardation.

Montana experiences the same problems as the national statistics address but maybe not at the same levels. The problems of control and complication from these diseases are no different.

There is clear evidence that both the quality of the services and the attitudes with which they are delivered are important in attracting those who need STD services. While existing programs are interrupting the transmission of syphilis and gonorrhea, many vulnerable groups may not yet be adequately served. To approach them effectively will require not only the efforts of STD clinics and investigators, but also those of family planning clinics, private physicians, diagnostic and public health laboratories, and schools and other educational institutions.

SEXUALLY TRANSMITTED DISEASES

Priority Objectives

Objective 1: By 1990, reported gonorrhea incidence should be reduced to a rate of 130 cases per 100,000 population.

Objective 2: By 1990, reported incidence of gonococcal pelvic inflammatory disease (GPID) should be reduced to a rate of 10 cases per 100,000 females.

Objective 3: By 1990, reported incidence of primary and secondary syphilis should be maintained to a rate of 2 cases per 100,000 population per year, with less than 1 case per 100,000 of congenital syphilis in children under 1 year of age.

Objective 4: By 1990, every public school system will provide STD health education as part of the school curriculum beginning no later than 7th grade.

Objective 5: By 1987, at least 95 percent of health care providers seeing suspected cases of sexually transmitted diseases should be capable of diagnosing and treating all currently recognized sexually transmitted disease.

Other Objectives

Objective 6: By 1990, the incidence of serious neonatal infection due to sexually transmitted agents, especially herpes and chlamydia, will be reduced.

Objective 7: By 1990, all public health clinics will provide treatment and contact referral for persons infected with non-gonococcal urethritis.

Objective 8: By 1990, the proportion of persons aware of the protective value of condoms will be increased.

Objective 9: By 1990, data should be available in adequate detail (but in statistical aggregates to preserve confidentiality) to determine the occurrence of non-gonococcal urethritis, genital herpes and other sexually transmitted

diseases in each local area, and to recommend approaches for preventing sexually transmitted diseases and their complications.

Objective 10: By 1990, surveillance systems should be sufficiently improved so that at least 50 percent of sexually transmitted diseases diagnosed in medical care facilities are reported, and that uniform definitions are used nationwide.

SEXUALLY TRANSMITTED DISEASES

Objective 1: By 1990, reported gonorrhea incidence should be reduced to a rate of 130 cases per 100,000 population.

Rationale: The primary concern is the consequences of sexually transmitted diseases for infants, fetuses and women. The reduction of the reservoir of gonorrhea eventually will lessen the risks to these groups.

Discussion: Reported morbidity is an indicator of morbidity, not an actual count. As with other sexually transmitted diseases, the exact degree of underreporting is unknown, but thought to be significant. With help from private physicians, it is anticipated that reporting will improve.

Morbidity is not evenly distributed through the population. High risk groups can be identified by age, sex, geographical location and ethnicity. Identification of such risk groups, and working with numbers of those groups to develop educational and service programs, should be a promising strategy.

* * * * *

Objective 2: By 1990, reported incidence of gonococcal pelvic inflammatory disease (GPID) should be reduced to a rate of 10 cases per 100,000 females.

Rationale: GPID is a cause of undesired infertility and poor outcome of pregnancy which are the most common serious complications of gonorrhea in females.

Discussion: Most GPID cases are seen by private physicians (usually in emergency rooms in hospitals). Timely treatment of gonorrhea can prevent GPID. Most females are asymptomatic until the development of GPID clinical symptoms appear. A majority of GPID females have been infected by asymptomatic males, or by identified and treated symptomatic males where no follow-up of contacts was initiated. The best strategy is to prevent the disease in the first place. Also, by reducing the reservoir of gonorrhea, the incidence of late complications will be reduced. Public health resources will be applied to attempt to counsel infected persons with a focus on the treatment of contacts and the prevention of reinfection with gonorrhea.

* * * * *

Objective 3: By 1990, reported incidence of primary and secondary syphilis should be maintained to a rate of 2 cases per 100,000 population per year, with less than 1 case per 100,000 of congenital syphilis in children under 1 year of age.

Rationale: Congenital syphilis is a preventable condition.

Discussion: Improved case finding and better reporting will raise the reported incidence of primary and secondary syphilis. In the long run, however, they will reduce actual incidence. The workgroup expects to see the reduction by 1990.

Professional and public education are major strategies in the reduction of the incidence of syphilis.

* * * * *

Objective 4: By 1990, every public school system will provide STD health education as part of the school curriculum beginning no later than 7th grade.

Rationale: The focus is on school systems rather than students, since it may be more feasible to monitor junior and high school curricula.

Discussion: Inclusion of STD health education into school curriculum is important for prevention.

* * * * *

Objective 5: By 1987, at least 95 percent of health care providers seeing suspected cases of sexually transmitted diseases should be capable of diagnosing and treating all currently recognized sexually transmitted disease.

Rationale: Detection of sexually transmitted disease is important for the health of the pregnant woman and the newborn.

Discussion: As improved laboratory testing becomes available monitoring herpes infections among women should improve.

HEALTH PROTECTION

Toxic Agent Control

Occupational Safety and Health

Accident Prevention and Injury Control

Oral Health

Surveillance and Control of Infectious Diseases

TOXIC AGENT CONTROL

Summary of the Problem:

Toxic compounds can have diverse, serious effects. Exposure to toxic chemicals or physical hazards can produce chronic lung disease, developmental impairment, cancer, chronic degenerative diseases, neurological changes, and immunologic diseases.

If high exposure causes serious disease, the same ill effects may occur in people exposed to much lower doses over a long period. The most widely discussed effect of hazardous substances is cancer. Research has suggested that 90 percent of human cancers are due to environmental factors, but usually include factors of diet, alcohol and cigarette smoking.

It is estimated that of the four million chemical compounds which have been synthesized or isolated from natural materials, more than 55,000 are produced commercially. Over 2,000 chemicals are suspected carcinogens in laboratory animals, with epidemiologic studies suggesting that 26 of these chemicals are carcinogenic in humans.

TOXIC AGENT CONTROL

Priority Objectives

Objective 1: By 1990, virtually all wastewater management or process water systems established after 1980 should be in substantial compliance with Montana surface and ground water quality standards and/or federal effluent guidelines.

Objective 2: By 1990, virtually all of Montana's community public water systems should meet Federal and State standards for safe drinking water.

Objective 3: By 1990, virtually all Montana communities should be meeting all Montana and federal primary ambient air quality standards.

Objective 4: By 1990, all hazardous waste treatment, storage and disposal facilities in Montana will be licensed.

Objective 5: To refine present monitoring efforts within the environmental sciences division and continue to coordinate and incorporate these efforts through 1990.

Other Objectives

Objective 6: Through 1990, continue to contribute scientific monitoring data to federal data storage systems.

Objective 7: By 1990, at least half of all Montana adults should be able to accurately report an accessible source of information on toxic substances to which they may be exposed.

Objective 8: By 1990, at least half of all Montanans 15 years and older should be able to identify the major categories of environmental threats to health and note some of the consequences.

Objective 9: By 1990, at least 70 percent of Montana's primary care physicians should be able to identify the principal health consequences of exposure to each of the major categories of environmental threats to health.

Objective 10: By 1990, at least 90 percent of Montana children identified with lead toxicity in the 0 to 5 age group will have been brought under medical and environmental management.

Objective 11: By 1990, Montanans should have access to an acute care facility with the capability to provide or make referrals for screening, diagnosis and treatment of suspected exposure to toxic agents.

Objective 12: By 1990, Montanans residing in an area of a population density greater than 20 per square mile, or an area of particularly high risk, should be protected by an early warning system to detect environmental hazards posing serious imminent health threats.

Objective 13: By 1990, every populated area in Montana should be reachable within 6 hours by an emergency response team in the event of exposure to an environmental hazard posing an acute health threat.

Objective 14: By 1990, at least 75 percent of all Montana city council members in urban communities should be able to report accurately whether the quality of their air and water has improved or worsened over the decade and to identify the principal substances of concern.

Objective 15: By 1990, Montana should develop contingency plans (regarding pesticides with adverse chronic effects) to educate user groups and the public; re-evaluate pesticide registrations (SLN and State/Fed); monitor residues in food and the environment; detect and enforce misuse; dispose of identified hazardous materials; and identify those suspect chemicals in the state interest.

Objective 16: By 1990, all handlers of hazardous waste that are subject to regulation will be under the Montana Hazardous Waste Act.

Objective 17: By 1990, clear labeling as to content, directions for proper use and disposal, and factors making an individual especially susceptible should be

placed on all potentially toxic products sold commercially or used industrially in Montana.

Objective 18: By 1990, the prevalence of lead toxicity among children ages 0 to 5 should be eliminated from virtually all Montana communities.

TOXIC AGENT CONTROL

Objective 1: By 1990, virtually all wastewater management or process water systems established after 1980 should be in substantial compliance with Montana surface and ground water quality standards and/or federal effluent guidelines.

Rationale: It is the public policy of this state to conserve water by protecting, maintaining and improving the quality and potability of water for public water supplies, wildlife, fish and aquatic life, agriculture, industry, recreation and other beneficial uses and to provide a comprehensive program for the prevention, abatement and control of water pollution.

Discussion: In order to carry out this policy, the state must establish and maintain water quality standards sufficient to protect the various beneficial uses of water.

Continued water quality monitoring of pollutant sources and water resources sufficient to verify water quality standards are being maintained.

Current status of Montana water quality is reviewed in the 1984 Montana 305(b) report, "Water Quality in Montana, 1984."

* * * * *

Objective 2: By 1990, virtually all of Montana's community public water systems should meet Federal and State standards for safe drinking water.

Rationale: The primary goal of the Water Quality Bureau's Public Water Supply Program is to assure that the water served to the public by public water supplies is safe for human consumption.

Discussion: 627 community public water supplies serve approximately 80 percent of Montana's population. Of these systems 11 violate the turbidity MCL; 117, the bacteriological MCL and 19 one or more MCL's for chemicals and radiological contaminants. Many more violate the regulations in regard to monitoring requirements.

Continued monitoring of public water supplies as required by state and federal regulations.

* * * * *

Objective 3: By 1990, virtually all Montana communities should be meeting all Montana and federal primary ambient air quality standards.

Rationale: The primary goal of the Air Quality Bureau is to assure that the public enjoys clean ambient air. The goal is achieved by setting ambient air quality standards and then meeting them.

Discussion: As of 1984, the following number of sites exceeded standards:

<u>Pollutant</u>	<u>MT Std.**</u>	<u>Fed. Primary</u>	<u>Pollutant</u>	<u>MT Std.</u>	<u>Fed. Primary</u>
Carbon monoxide	3	3	Lead	1	1
Sulfur dioxide	1	0	Hydrogen sulfide	1	NA
Fluorides	1	NA	Particulates	9	3

Montana should continue monitoring in communities which are exceeding the ambient air quality standards and establish new monitoring sites in previously unmonitored areas. In order to achieve this, more monitoring equipment is needed. Monitoring sites should not be deleted when they are in compliance, and all sites which need to be monitored should be.

- * Hydrocarbon was dropped from the federal rules about a year and a half ago.
- * In some cases the Montana standards are more stringent than the federal standards.

* * * * *

Objective 4: By 1990, all hazardous waste treatment, storage and disposal facilities in Montana will be licensed.

Rationale: The health and environment in the state will be protected by having complete information on hazardous wastes in the state.

Discussion: Currently there are 10 treatment, storage and disposal facilities in Montana.

An inventory of hazardous waste generators is needed.

* * * * *

Objective 5: To refine present monitoring efforts within the environmental sciences division and continue to coordinate and incorporate these efforts through 1990.

Rationale: The continued refinement of the ESD's environmental health monitoring system will create a background source of scientific information which will provide an accurate indication of the quality of the environment and assist in cases of early identification of problems.

Discussion: Each bureau within the Environmental Sciences Division should retain its individual monitoring data and continue to refine and coordinate the monitoring efforts.

OCCUPATIONAL HEALTH AND SAFETY

Summary of the Problem:

Many of Montana's workers are exposed to occupational health hazards: carcinogenic agents, pulmonary or other physical disease incitants, physical agents or job-related pressures of noise, crowding or stress. Exposure to toxic chemicals or physical hazards can produce chronic lung disease, cancer, degenerative disease in various organs, birth defects and genetic changes. Yet many workers remain inadequately protected from common work-place hazards.

Objectives

Occupational health services in Montana are carried out by agencies under federal contracts and grants and their objectives are determined by law, regulation and contract provisions.

ACCIDENT PREVENTION AND INJURY CONTROL

Summary of the Problem:

Montanans, like other Americans, are dying in increasing numbers as a result of accidental injuries -- most of them from motor vehicle accidents. Falls, burns, drowning and other causes make up the rest. Injuries are the leading cause of death between ages 1 and 44, and account for the majority of the fatalities for those between 15 and 24. Further, uncounted numbers suffer non-fatal accidental injuries requiring medical treatment.

Accident victims are not distributed evenly throughout the population. Teenagers and young adults have the highest motor vehicle death rate; fatal falls, which occur primarily in the home, disproportionately affect the population aged 75 and over; and children 10 years and younger are a high risk population for burns.

Accident prevention programs should be based on epidemiological documentation of injury problem areas at the state and local levels. Prevention measures include public education, skill development, safety engineering, environmental modification, legislation, regulation, and enforcement.

ACCIDENT PREVENTION AND INJURY CONTROL

Priority Objectives

Objective 1: By 1990, the Montana motor vehicle fatality rate should be reduced to 24 per 100,000.

Objective 2: By 1990, the home accident fatality rate for Montana children under 15 should be no greater than 5.0 per 100,000; the mortality rate from falls among the general population should be reduced to no more than 2 per 100,000.

Objective 3: By 1990, residential fire deaths should be reduced.

Objective 4: By 1990, at least 75 percent of communities with a population of 2500 or more, should receive an initial EMS response within 10 minutes or less of a call.

Objective 5: By 1990, the Montana motor vehicle fatality rate for children under 15 should be reduced to no greater than 5.0 per 100,000 children.

Other Objectives

Objective 6: Through 1990, continue the Montana Poison Control System and increase the amount of public information and education regarding the use of the system.

Objective 7: By 1990, virtually all Montana primary health care providers should advise patients about the importance of safety belts and should include instructions about the use of child restraints to prevent injuries from motor vehicle accidents as part of their routine interaction with parents.

Objective 8: By 1990, Montana EMS system will have a detailed and uniform mechanism of reporting injuries, prehospital and in-hospital, and correlated with other EMS system data elements.

Objective 9: To assure that local medical personnel are well trained in the initial stabilization of the trauma, burn and spinal cord injured patient, and that secondary transportation networks are well established to transfer individuals to such centers when appropriate.

Objective 10: By 1990, the mortality rate for drowning should be reduced to no more than 2.0 per 100,000 persons.

Objective 11: By 1990, the number of tap water scald injuries requiring hospital care should be reduced to no more than 10 per year.

Objective 12: By 1990, all Montana health facilities will ensure that at least 50 percent of newborns return home in a certified child passenger carrier.

Objective 13: By 1990, the proportion of automobiles containing automatic restraint protection should be greater than 75 percent.

ACCIDENT PREVENTION AND INJURY CONTROL

Objective 1: By 1990, the Montana motor vehicle fatality rate should be reduced to 24 per 100,000.

Rationale: With some behavior changes - seat belt use, driving without drinking, non-smoking - Montanans have the potential, in combination with technology, of changing the motor vehicle fatality rate drastically.

Discussion: In 1983, the Montana motor vehicle fatality rate was 32.7 per 100,000. In 1982, the Montana motor vehicle fatality rate was 29.5 (236 total) per 100,000. In 1981, the rate was 38.3 (308 total) per 100,000. The rate is still beyond a tolerable level. Alcohol-related motor vehicle accidents and injuries account for an estimated +65 percent of all automobile crashes and fatalities in Montana. Only 12 percent of all Americans use seat belts.

* * * * *

Objective 2: By 1990, the home accident fatality rate for Montana children under 15 should be no greater than 5.0 per 100,000; the mortality rate from falls among the general population should be reduced to no more than 2 per 100,000.

Rationale: The Montana rate is quite high compared to national rates. Home accidents can be prevented to a large degree with awareness and education on home safety procedures.

Discussion: While accidental death was the fourth leading cause of death (471 fatalities in 1982), the cause specific death rate for accidents dropped to an all-time low of 58.8 deaths per 100,000. The rate is a 16 percent drop from the 1981 rate.

* * * * *

Objective 3: By 1990, residential fire deaths should be reduced.

Rationale: Compliance with fire codes, fire prevention education, and the installation of fire alarms will reduce fire deaths.

Discussion: Montana Department of Health & Environmental Sciences -- Bureau of Records and Statistics:

1978	Population	785,000	Deaths	16	2.0/100,000
1979	"	786,000	"	24	3.1/100,000
1980	"	786,690	"	15	1.9/100,000
1981	"	793,000	"	13	1.6/100,000
1982	"	801,000	"	10	1.2/100,000
1983	"	817,000	"	19	2.3/100,000

* * * * *

Objective 4: By 1990, at least 75 percent of communities with a population of 2500 or more, should receive an initial EMS response within 10 minutes or less of a call.

Rationale: A community base of 2500 is realistic in rural Montana. Since most ambulances have a response time of 4-6 minutes, this goal is realistic for incorporated areas. With Quick Response Units, an EMS system response is a better goal than simply an ambulance response.

Discussion: Since the termination of federal grant funding, ambulance trip reports have not been analyzed by computer. Quick Response Units, other first response units and, eventually, Advanced Life Support Units should be a part of the data base.

★ ★ ★ ★ ★

Objective 5: By 1990, the Montana motor vehicle fatality rate for children under 15 should be reduced to no greater than 5.0 per 100,000 children.

Rationale: Since children under 15 years of age are passengers and not necessarily drivers of motor vehicles, safety protection should be afforded in terms of education to assure seat belt usage and defensive driving skills. Further, societal costs, due to premature years lost, is greatest among our young citizens.

Discussion: In 1982, the Montana mortality rate due to motor vehicle accidents for children under 15 years of age was 5 per 100,000. Motor vehicle accidents are the leading cause of death for children, birth to 15 years of age.

ORAL HEALTH

Summary of the Problem:

Tooth decay, which affects 80 percent of school aged children and 95 percent of the adult population of Montana citizens, is our most prevalent health problem. It costs an estimated \$75 million yearly for treatment. Periodontitis and gingivitis affect nearly 98 percent of the adult population, causing the number one reason for lost teeth.

Dental disease prevention embodies the spectrum of many activities including the school-based fluoride mouth rinse, screening, and education; fluoridation of municipal and school water supplies; education in personal oral hygiene and diet conducive to good oral health; assessment data of the dental health status; and prevention programs targeted to reduce adult periodontal and gingival disease.

The number of children participating in the fluoride mouth rinse has increased steadily since the introductory program in Flathead County in 1971-72. The number of persons on fluoridated water, either natural or added, has remained static over the past 10-15 years at approximately 29 percent of the Montana population. At present, the most effective and cost beneficial intervention are the fluoride programs involving water supply and/or school-based mouth rinse programs.

ORAL HEALTH

Priority Objectives

Objective 1: By 1990, 95 percent of all school children K-6 should receive the benefits of a three pronged education, screening and fluoride mouthrinse program, reducing decay in adult teeth for children at 12 years of age to 40 percent.

Objective 2: By 1990, all communities in Montana with over 2,000 population should be on an optimally fluoridated water supply.

Objective 3: By 1990, continued exposure of 100 percent of Head Start, kindergarten, 2nd and 5th grade children to education in personal oral hygiene and proper dental diet and proper human nutrition.

Objective 4: By 1990, improve the screening system already in place in Montana to determine periodic status of oral health, dental treatment needs based on demand, and utilization of dental services.

Objective 5: By 1988, an adult gingivitis and periodontitis prevention program should be established in Montana.

Other Objectives

Objective 6: By 1990, education in schools and the work places should tell what foods are highly cariogenic and the proper instruction on how to remove cariogenic foods from the teeth when eaten.

Objective 7: By 1990, all participants in organized contact sports (namely football, wrestling, soccer, hockey, boxing, and basketball) be required to wear proper mouth guards.

Objective 8: By 1990, the prevalence of gingivitis in children 6-12 years should be kept at the present level of less than 5 percent.

Objective 9: By 1985, dental prevention measures of high priority should be implemented with a plan of action, including an evaluation component measuring progress.

Objective 10: By 1990, at least 95 percent of school children living in a fluoride-deficient area should be participating in a school-based fluoride mouthrinse program.

ORAL HEALTH

Objective 1: By 1990, 95 percent of all school children K-6 should receive the benefits of a three pronged education, screening and fluoride mouthrinse program, reducing decay in adult teeth for children at 12 years of age to 40 percent.

Rationale: A successful program is already in place in Montana. Continuation of the program should improve present results of the program.

Discussion: The program is in place in 46 counties in Montana at present. 330 schools are mouthrinsing, along with education and screening. 66 more schools which have optimum fluoride in their drinking water are participating in education and screening programs.

* * * * *

Objective 2: By 1990, all communities in Montana with over 2,000 population should be on an optimally fluoridated water supply.

Rationale: Fluoridation is the most cost-effective in cities with populations over 2,000. Most rural towns under 2,000 have many persons with private wells and the cities have numerous well heads, therefore, making it not cost-effective.

Discussion: Legislative support of the program would improve the success and survival of the program.

* * * * *

Objective 3: By 1990, continued exposure of 100 percent of Head Start, kindergarten, 2nd and 5th grade children to education in personal oral hygiene and proper dental diet and proper human nutrition.

Rationale: Behavioral change to enhance personal hygiene is most important and effective in early childhood.

Discussion: This program affords an informational opportunity to address the benefits of fluoridation.

* * * * *

Objective 4: By 1990, improve the screening system already in place in Montana to determine periodic status of oral health, dental treatment needs based on demand, and utilization of dental services.

Rationale: The system involves public and private dental sectors that direct attention to areas of demanded need.

Discussion: The present system needs review to become more comprehensive. The system needs to provide information like numbers of children with decay, orthodontic problems, or other oral diseases or difficulties.

* * * * *

Objective 5: By 1988, an adult gingivitis and periodontitis prevention program should be established in Montana.

Rationale: Gingivitis and periodontitis occur most often in persons of working age or working status, and could be best addressed through the work site setting or by the private dental sector.

Discussion: Although it is not substantiated, Montanans are expected to have a high degree of periodontitis and gingivitis in later years. Some have attributed this speculation to high calcium-lime water concentrates and the lack of good public education regarding these diseases.

SURVEILLANCE AND CONTROL OF INFECTIOUS DISEASES

Summary of the Problem:

Infectious diseases surveillance and control are clearly a cost-effective preventive action. Montana has had deaths from hepatitis, influenza, meningitis, pneumonia, salmonellosis, toxic-shock syndrome and tuberculosis during the last four years.

It is estimated that there will be enough cases of infectious diseases in Montana in any given year to allow each citizen to suffer morbidity from at least one such illness. Work productivity and increased health care costs are high for infectious diseases. This is true even for those infectious diseases with low mortality rates. Surveillance and control of infectious diseases is a very cost effective method of preventing secondary spread and breaking the chain of transmission. Most diseases identified today are amenable to control efforts.

SURVEILLANCE AND CONTROL OF INFECTIOUS DISEASES

Priority Objectives

Objective 1: Decrease the number of new cases of tuberculosis by at least 5 percent per year. (New case number of 18 or below is estimated for 1990.).

Objective 2: By 1990, surveillance and control systems in Montana should be capable of responding to and containing: 1) newly recognized diseases and unexpected epidemics of public health significance; and 2) infections introduced from foreign countries.

Objective 3: By 1990, establish a surveillance and investigation program within the Montana Department of Health and Environmental Sciences to deal exclusively with nosocomial infections.

Objective 4: By 1990, the Montana Department of Health and Environmental Sciences should be linked to federal health agencies for collection, analysis and dissemination of surveillance data, rapid communication of messages, and epidemic aid investigations by means of the MINET system.

Objective 5: By 1990, the annual incidence rate of hepatitis B should be less than 20/100,000 or less than 150 new cases per year by 1990.

Other Objectives

Objective 6: Maintain the annual estimate incidence of bacterial meningitis at 3/100,000.

Objective 7: By 1990, data reporting systems in Montana should be able to monitor trends of common infectious agents not now subject to traditional public health surveillance (respiratory illnesses, gastrointestinal illnesses, otitis media) and to measure the impact of these agents on health care cost and productivity at the local and state level.

Objective 8: By 1990, the extent of epidemics of respiratory and enteric viral illnesses should be predicted within 2 weeks after they appear through community wide surveillance systems.

Objective 9: By 1990, Montana Department of Health and Environmental Sciences should be linked to the national data system for monitoring infectious agents and antibiotic resistance patterns and for disseminating information.

Objective 10: Maintain a low incidence rate by providing educational information supporting the use of pneumococcal vaccine in the high risk.

Objective 11: Ensure the continuation of the high quality immunization services.

SURVEILLANCE AND CONTROL OF INFECTIOUS DISEASES

Objective 1: Decrease the number of new cases of tuberculosis by at least 5 percent per year. (New case number of 18 or below is estimated for 1990.).

Rationale: Tuberculosis continues to be the leading cause of death among communicable diseases. While hospitalization is neither desirable or recommended, many cases were hospitalized for an average of 4 days in 1984. Treatment of an uncomplicated case without hospitalization is approximately \$1,350.00 to \$1,500.00 per person.

Discussion: While the total state incidence rate for new cases is 6/100,000, the new case incidence for American Indians is approximately 11/100,000. This should be reduced to 3/100,000 by 1990, but could conceivably be reduced to 4.8 cases, if the American Indian population continues to be one-half of the total number of cases reported in Montana.

The new case number declined by 53 percent opposed to 5 percent nationally between 1983 and 1984. If such decline were to continue, new cases of tuberculosis in Montana could be eliminated by 1989.

While it is currently assumed all newly diagnosed cases are reported to MDHES, it is assumed only 10 percent of other reportable diseases are reported. A concerted surveillance program similar to that for measles should be employed during 1985 to insure reporting of new TB cases is actually 100 percent. This would require $\frac{1}{2}$ FTE. A $\frac{1}{2}$ FTE employee could also ensure complete follow-up of each case to insure the stoppage of transmission between the infected and uninfected.

* * * * *

Objective 2: By 1990, surveillance and control systems in Montana should be capable of responding to and containing: 1) newly recognized diseases and unexpected epidemics of public health significance; and 2) infections introduced from foreign countries.

Rationale: The ultimate objective of disease surveillance is to determine the extent of infections and the risk of disease transmission so control measures can be applied effectively and efficiently. Surveillance data must be current and complete to disclose the occurrence and distribution of disease. There are two principal reasons for conducting surveillance when control measures are not available: 1) to increase knowledge of the reservoir and the modes of transmission; and 2) to assess the effect of control measures when they are available.

Discussion: At this time the accuracy of reporting in Montana is not known. It is estimated that approximately 10 times the number of reported cases occur when a passive reporting system is in place. In 1983 diseases reported in Montana included 1,216 cases of gonorrhea, 33 cases of hepatitis A, 21 cases of hepatitis B, 2 hepatitis non-A, non-B, 16 cases of hepatitis unspecified, 4 cases of measles, 5 meningococcal infections, 9 cases of mumps, 119 animal rabies cases, 2 pertussis cases, 164 cases of salmonellosis, 19 cases of shigellosis, 15 cases of syphilis, 4 cases of

rubella, 47 cases of tuberculosis, 8 cases of tularemia, 8 cases of Rocky Mountain spotted fever, 1 case of toxic shock syndrome.

For the surveillance system to be responsive in implementing control measures for the reported diseases, the diseases must be reported in a timely and accurate manner. In 1986, a deliberate attempt to actively solicit reports for all reportable diseases from each county should be made to determine the current state of disease reporting.

Each state's morbidity reporting system is based upon regulations adopted by the State Board of Health which derives its authority to issue regulations from acts of the state legislature. Morbidity reporting regulations characteristically specify which diseases or conditions are reportable, who is responsible for reporting, what information is required for each case of disease reported, what manner of reporting is needed, and to whom the information is reported.

* * * * *

Objective 3: By 1990, establish a surveillance and investigation program within the Montana Department of Health and Environmental Sciences to deal exclusively with nosocomial infections.

Rationale: The Montana Department of Health and Environmental Sciences has licensing responsibilities and is often asked to make recommendations regarding prevention of nosocomial infections in licensed facilities. Nosocomial infections have been reduced by 20 percent in facilities with active programs in place. Therefore, the Department should make a concerted effort to see that the standards are implemented.

Discussion: Any data available from Licensing and Certification Bureau should be used. A content analysis of requests for assistance from Hospital and Medical Facilities to the Communicable Disease Program during the past four years should be done.

During 1987 a targeted surveillance study should be done to determine the extent of nosocomial infections in all Montana hospitals. After such an assessment is done, the priorities for implementation of standards could occur.

With hospital cost containment as an emphasis in medical care activities in Montana, the need for implementation of standards in nosocomial infection reduction could be interpreted in terms of savings per patient.

* * * * *

Objective 4: By 1990, the Montana Department of Health and Environmental Sciences should be linked to federal health agencies for collection, analysis and dissemination of surveillance data, rapid communication of messages, and epidemic aid investigations by means of the MINET system.

Rationale: Because there are many state and local agencies, there is a need to coordinate efforts and to transmit precise information several times during the day throughout the state and between states. The MINET system has been in place for approximately nine months. It is sponsored by

ATHO, and therefore, should be consistent with national reporting requirements that are imposed upon this agency for federal funding. The cost of such a program can be less expensive than either telephone calls or letters, and messages can be transmitted instantaneously over the network.

Discussion: The Montana Department of Health and Environmental Sciences did participate in the early period of transmission through the MINET system. The type of transmissions received were the early edition of the MMWR. This did prove quite useful in that we were alerted to issues before the general press and could be prepared for questions concerning controversial issues. The cost for the service at that time was minimal, but the service was discontinued when the Health Services Administration budget was discontinued.

Information concerning the general principles of MINET use have been obtained. Specific information that yet could be learned is as follows: the data bases now available through MINET, the exact charges accrued on MINET, the hours of down time that have been experienced in the history of MINET, whether or not the MINET system could be utilized with the hardware already available in the Department, the availability of service in the event of failure of the MINET system.

The GTE Telenet Medical Information Network provides a fast and reliable means of communication within the medical and health care community. Subscribers can read, send and even file messages electronically using a computer terminal. The service is designed as a universal communication system. Incoming and outgoing messages can be filed electronically within the med/mail system for an unlimited period of time. Messages of general interest can be posted on electronic bulletin boards where anyone authorized to read them may do so at his or her convenience.

* * * * *

Objective 5: By 1990, the annual incidence rate of hepatitis B should be less than 20/100,000 or less than 150 new cases per year by 1990.

Rationale: While hepatitis A is a costly disease in terms of days of activity lost, recovery is usually complete. Hepatitis B has the potential for chronic degenerative liver disease and a case fatality ratio of 50 to 1, or 2 deaths for every 100 cases.

Discussion: Approximately 20 new cases of hepatitis B have been reported during the last five years for Montana. If it is concerted that only 10 percent are reported with passive reporting, Montana has an approximate average incidence rate of 27/100,000 cases.

During the year of 1988 a special surveillance program should be initiated to determine as accurately as possible the incidence of hepatitis cases in Montana.

Diagnosticians should be supported in differentiating hepatitis types. The Montana Department of Health and Environmental Sciences could initiate a special surveillance system and hepatitis B control program to facilitate

the prompt identification of contacts and appropriate prophylaxis being given. Information systems and increased education would be a part of this directed effort towards prevention of increase in number of hepatitis E cases occurring annually.

HEALTH PROMOTION

Smoking and Health

Misuse of Alcohol and Drugs

Nutrition

Physical Fitness and Exercise

Control of Stress and Violent Behavior

SMOKING AND HEALTH

Summary of the Problem:

Cigarette smoking is the largest single preventable cause of illness and premature death in Montana. It is the major single cause of cancer morbidity and is a causal factor for coronary heart disease and arteriosclerotic peripheral vascular disease; is associated with increased risk of coronary heart disease; and is the most important cause of chronic obstructive lung disease.

Cigarette smoking increases the risk of bladder, pancreatic, and renal cancer, and peptic ulcer disease. Maternal smoking during pregnancy causes: retarded fetal growth; an increased risk for spontaneous abortion, fetal death, and neonatal death; and possibly, slight impairment of growth and development during early childhood.

In Montana, 29.3% of adults currently smoke cigarettes. Nearly 79% of those smokers smoke less than one pack a day, while 19% smoke one to two packs, and 2% smoke more than two packs a day. According to behavioral risk data from Centers for Disease Control, 1982, 31.5% of the U.S. adult population now smoke, 34% male and 29.1% female.

SMOKING AND HEALTH

Priority Objectives

Objective 1: By 1990, the proportion of adults who smoke should be reduced to below 18%.

Objective 2: By 1990, the proportion of Montana children and youth ages 12-18 years old who smoke should be reduced to below 6%.

Objective 3: By 1990, there will be a 50% reduction in the number of pregnant women who smoke as compared to the rate in 1984.

Objective 4: By 1990, major health and life insurers will be offering differential insurance premiums to smokers and nonsmokers in Montana.

Objective 5: By 1990, the Montana's Clean Air Act will be strengthened to require non-smoking areas in all public facilities. By 1990, the SDHES should assist in enactment of legislation to support smoking and health programs through cigarette taxes, 5% of total revenue.

Other Objectives

Objective 6: By 1990, at least 35 percent of all workers in Montana should be offered employer/employee sponsored or supported smoking cessation programs either at the worksite or in the community.

Objective 7: By 1990, at least 90% of Montana women should be aware of the special health risks for women who smoke, including the effect on outcomes of pregnancy and the excess risk of cardiovascular disease with oral contraceptive use.

Objective 8: By 1985, the present cigarette warning should be strengthened to increase its visibility and impact, and to give the consumer additional needed information on specific multiple health risks of smoking. Special consideration

should be given to rotational warnings and to identification of special vulnerable groups.

Objective 9: By 1990, at least 85% of 12 year olds in Montana should be able to identify smoking cigarettes with increased risk of serious disease of the heart and lungs.

Objective 10: By 1990, the share of the adult population in Montana who are aware that smoking is one of the major risk factors for heart disease should be increased to at least 85 percent.

Objective 11: By 1990, at least 90 percent of the adult population in Montana should be aware that smoking is a major cause of lung cancer, as well as multiple other cancers including laryngeal, esophageal, bladder and other types.

Objective 12: By 1990, in addition to biomedical hazard surveillance, continuing examination of the changing tobacco product, and the sociologic phenomena resulting from those changes will have been accomplished in Montana.

Objective 13: By 1990, continuing epidemiological research in Montana should have delineated the unanswered research questions regarding low yield cigarettes, and preliminary partial answers to these should have been generated by research efforts.

Objective 14: By 1988, the sales-weighted average tar yield of cigarettes should be reduced to below 10 mg in Montana. The other components of cigarette smoke known to cause disease should also be reduced proportionately.

Objective 15: By 1985, Montana insurance companies should have collected, reviewed, and made public their actuarial experience on the differential life experience and hospital utilization by specific cause among smokers and non-smokers, by sex.

SMOKING AND HEALTH

Objective 1: By 1990, the proportion of adults who smoke should be reduced to below 18%.

Rationale: Smoking is the single most important preventable cause of death and disease. It is associated with heart and blood vessel diseases, chronic bronchitis, emphysema, cancers of the lung, larynx, pharynx, oral cavity and bladder. Each year, health damage from smoking costs billions of dollars in medical care, job absenteeism, decreased work productivity, fires and accidents.

Discussion:

* * * * *

Objective 2: By 1990, the proportion of Montana children and youth ages 12-18 years old who smoke should be reduced to below 6%.

Rationale: To meet Surgeon General's goal of a smoke-free society by the year 2000, a national strategy for preventing cigarette smoking becomes a necessity.

Discussion:

* * * * *

Objective 3: By 1990, there will be a 50% reduction in the number of pregnant women who smoke as compared to the rate in 1984.

Rationale: Pregnancy represent an important time in one's life in which health seems to take on a new meaning. A time in the woman's life when motivation to make positive changes is at an all time high. The reduction of risk by no longer exposing the unborn child to chemicals in tobacco smoke assists in giving the child a good start in life. Smoking during pregnancy increases the risk of spontaneous abortion, fetal death, of infant death in otherwise normal babies.

Discussion:

* * * * *

Objective 4: By 1990, major health and life insurers will be offering differential insurance premiums to smokers and nonsmokers in Montana.

Rationale: Montana is beginning to experience incentives offered by insurance companies that promote non-smoking and healthy lifestyles. The underwriters and insurance commission can have a direct effect in the promotion of healthy incentives.

Discussion:

* * * * *

Objective 5: By 1990, the Montana's Clean Air Act will be strengthened to require non-smoking areas in all public facilities. By 1990, the SDHES should assist in enactment of legislation to support smoking and health programs through cigarette taxes, 5% of total revenue.

Rationale: Montana has a Clean Indoor Air Act (Montana Code Annotated, Title 50, Chapter 40) to protect the health of non-smokers in public places. However, at this point, the non-smoking area is optional, rather than mandatory.

Discussion: In September 1985 national cigarette tax will decrease 50% - 16¢ - 8¢, which might increase sales. Research indicates a 10% increase in price results in a 4% decrease in smoking. Montana cigarette taxes have not been raised in about 30 years.

The poisons in cigarette smoke are so potent that the effects on non-smokers can have damaging effects. The 1982 Surgeon General's report cited several studies that found an increased risk of lung cancer in nonsmokers exposed for long periods to other people's smoking. The Surgeon General's office said this evidence raises concern about a possible serious public health problem and that nonsmokers should avoid being in smoke-filled rooms.

MISUSE OF ALCOHOL AND DRUGS

Summary of the Problem:

The abuse of alcohol and drugs is one of the state's most serious problems. It directly or indirectly involves almost every aspect of our physical, psychological, and social well-being. Problem drinking can begin in adolescence or adulthood. It can remain a lifetime or be self-limiting, and can lead to premature death.

The problem of drinking and driving has been staggering in Montana. In 1983, cirrhosis, which is largely attributable to alcohol consumption, ranks as our 10th leading cause of death. Alcohol use is associated with cancer of the liver, pancreas, esophagus, and mouth. Alcohol consumption during pregnancy is associated with a wide range of possible harmful effects to the fetus -- decreased birth weight, spontaneous abortion, and physical defects.

Drug misuse leads to problems of social and health dimension. Excessive doses of depressants can result in both physical and psychological dependence. The toll of marijuana, cocaine, heroin -- have the potential of premature death, severe disability, family disruption, and crime committed to maintain the habit.

Even though clinical research has concluded that moderate alcohol consumption (1 to 2 drinks per day) may be beneficial or contribute to wellness and longevity, the problems associated with alcohol are extensive and include social, health and safety problems.

MISUSE OF ALCOHOL AND DRUGS

Priority Objectives

Objective 1: By 1990 the proportion of problem drinkers and drug abusers among all adults aged 18 and over should be reduced to 8.0 percent.

Objective 2: By 1990 annual Montana fatalities from motor vehicle accidents involving drivers with blood alcohol levels of 0.10 percent or more should be reduced to less than 9.5 per 100,000.

Objective 3: By 1990 the incidence of infants born with fetal alcohol syndrome should be reduced by 25 percent.

Objective 4: By 1990, per capita consumption of alcohol in Montana should not exceed current levels.

Objective 5: By 1990, the proportion of adolescents 12-17 years old who abstain from using alcohol and drugs should not fall below 1977 levels.

Other Objectives

Objective 6: By 1990, the proportion of women of childbearing age aware of risks associated with pregnancy and drinking, in particular, the Fetal Alcohol Syndrome, should be greater than 90 percent.

Objective 7: By 1990, the proportion of adolescents 12-17 years old reporting frequent use of other drugs should not exceed 1977 levels.

Objective 8: By 1990, the proportion of young adults 18 to 25 years old reporting frequent use of other drugs should not exceed 1984 levels.

Objective 9: By 1990, the proportion of adolescents 14 to 17 years old who report acute drinking-related problems during the past year should be reduced to below 17 percent.

Objective 10: By 1990, fatalities from other (non-motor vehicle) accidents, indirectly attributable to alcohol use, e.g., falls, fires, drownings, ski mobile, aircraft, should be reduced to 5 per 100,000 per year.

Objective 11: By 1990, a comprehensive data capability should be established to monitor and evaluate the status and impact of misuse of alcohol and drugs on: health status; motor vehicle accidents; accidental injuries in addition to those from motor vehicles; interpersonal aggression and violence; sexual assault; vandalism and property damage; pregnancy outcomes; and emotional and physical development of infants and children.

Objective 12: By 1990, the proportion of workers in major firms whose employers provide a substance abuse prevention and referral program (employee assistance) should be greater than 70 percent.

Objective 13: By 1990, pharmacists filling prescriptions should routinely counsel patients on the proper use of drugs designated as high priority by the FDA, with particular attention to prescriptions for pediatric and geriatric patients and to the problems of drinking alcoholic beverages while taking certain prescription drugs.

Objective 14: By 1990, 80 percent of high school seniors should state that they perceive great risk associated with frequent regular cigarette smoking, marijuana use, barbiturate use or alcohol intoxication.

Objective 15: By 1990, other drug-related mortality should be reduced to 2 per 100,000 per year.

Objective 16: By 1990, the cirrhosis mortality rate should be reduced to 12 per 100,000 per year (about 96 people in Montana).

Objective 17: By 1990, adverse reactions from medical drug use that are sufficiently severe to require hospital admission should be reduced to 25 percent fewer such admissions per year.

Objective 18: By 1990, the proportion of adults who are aware of the added risk of head and neck cancers for people with excessive alcohol consumption should exceed 75 percent.

MISUSE OF ALCOHOL AND DRUGS

Objective 1: By 1990 the proportion of problem drinkers and drug abusers among all adults aged 18 and over should be reduced to 8.0 percent.

Rationale: Continued education and awareness programs have been shown to bring about reduction in consumption. Higher legal drinking age should impact outcome.

Discussion: This education and behavioral change will require combined efforts of public and private agencies involved in education, health and law enforcement.

* * * * *

Objective 2: By 1990 annual Montana fatalities from motor vehicle accidents involving drivers with blood alcohol levels of 0.10 percent or more should be reduced to less than 9.5 per 100,000.

Rationale: Newly enacted and more effective DUI laws and awareness programs are showing impact on the fatality rate.

Discussion: The Montana Highway Safety, Department of Justice, can provide an accurate statistical summary of fatalities from motor vehicle accidents involving drivers with 0.10 percent alcohol blood levels. This permits evaluation of prevention programs.

* * * * *

Objective 3: By 1990 the incidence of infants born with fetal alcohol syndrome should be reduced by 25 percent.

Rationale: Educational efforts should be able to accomplish this reduction.

Discussion: Fetal alcohol information should be a part of all prenatal care. Health professionals and institutions, especially those working with Montana's Indian population should develop public education programs on this problem.

* * * * *

Objective 4: By 1990, per capita consumption of alcohol in Montana should not exceed current levels.

Rationale: Reductions in per capita alcohol consumption are necessary to accomplish any of the alcohol related objectives.

Discussion: Reduced per capita consumption may not offset population growth but should at least result in no growth in total alcohol consumption.

* * * * *

Objective 5: By 1990, the proportion of adolescents 12-17 years old who abstain from using alcohol and drugs should not fall below 1977 levels.

Rationale: Continued education and awareness should maintain or increase level. Higher legal drinking age should also have impact.

Discussion: Although it is difficult to obtain reliable data, the impact of alcohol and drug prevention programs can be evaluated indirectly.

NUTRITION

Summary of the Problem:

Appropriate nutrition is necessary for optimal growth and development, physical activity, reproduction, lactation, recovery from illness and injury and maintenance of health throughout the life cycle. A variety of health problems can occur when persons have deficits of essential nutrients or have excessive or inappropriate consumption of some nutrients. While the role of nutrition in health problems is not fully understood, epidemiologic and laboratory studies offer important insights which may help people in making food choices to enhance their prospects of attaining or maintaining health.

Current research indicates an inappropriate nutritional status for a substantial portion of the American public. Montana citizens are no exception. Obesity is a major public health problem. Current research indicates a growing interest in nutrition. A cooperative effort between professionals (providing nutrition information/education) and the media can provide valid, well-researched nutrition information. Iron and folic acid deficiencies are common among pregnant or lactating women. The average sodium intake exceeds the recommended levels.

In 1982, 12 percent of the U.S. population was underweight and 21.3 percent were overweight. Of the overweight group, 23.4 percent were males and 20.3 percent were females.

NUTRITION

Priority Objectives

Objective 1: By 1990, nutrition education in Montana will be part of required comprehensive school health education at the elementary and secondary levels.

Objective 2: By 1990, the proportion of Montana women who breastfeed their babies at hospital discharge should be increased to 75 percent and 35 percent at six months of age.

Objective 3: By 1990, growth retardation of infants and children caused by inadequate diets should have been eliminated in Montana as a public health problem.

Objective 4: By 1990, the prevalence of significant overweight (120 percent of "desired" weight) among the Montana adult population should be decreased to 10 percent of men and 17 percent of women, without nutritional impairment.

Objective 5: Before 1990, a comprehensive Montana nutrition status monitoring system should have the capability for detecting nutritional problems in special population groups, as well as for obtaining baseline data for decisions on Montana nutrition problems.

Other Objectives

Objective 6: By 1990, 25 percent of the overweight population in Montana should have adopted weight loss regimens, combining an appropriate balance of diet and physical activity.

Objective 7: By 1990, the proportion of the population in Montana which is able to identify the principal dietary factors known or strongly suspected to be related to disease, should exceed 75 percent for each of the following diseases: heart disease, high blood pressure, dental caries and cancer.

Objective 8: By 1990, 50 percent of adults in Montana should be able to identify the major foods which are: low in fat content, low in sodium content, high in calories, good sources of fiber.

Objective 9: By 1990, 50 percent of adults in Montana should understand that to lose weight people must either consume foods that contain fewer calories or increase physical activity -- or both.

Objective 10: By 1990, in Montana, the proportion of employee and school cafeteria managers who are aware of, and actively promote, USDA/DHHS guidelines should be greater than 50 percent.

Objective 11: By 1990, in Montana, virtually all routine health contacts with health professionals should include some valid nutrition education and nutrition counseling.

Objective 12: By 1990, the proportion of pregnant women in Montana with iron deficiency anemia (as estimated by hemoglobin concentration early in pregnancy) should be reduced to 3.5 percent.

Objective 13: By 1990, the average daily sodium ingestion (as measured by population sampling) by adults in Montana should be reduced at least to the 3 to 6 gram range.

Objective 14: By 1990, the labels of all packaged foods available in Montana should contain useful calorie and nutrient information to enable consumers to select diets that promote and protect good health. Similar information should be displayed where non-packaged foods are obtained or purchased.

Objective 15: By 1990, sodium levels in processed food available in Montana should be reduced by 20 percent from present levels.

Objective 16: By 1990, if the relationship of cholesterol and heart disease is established, the mean serum cholesterol level in the adult population in Montana aged 18 to 74 should meet recommended levels.

Objective 17: By 1990, if the relationship of cholesterol and heart disease is established, the mean serum cholesterol level in children in Montana (aged 1 to 14) should meet recommended levels.

NUTRITION

Objective 1: By 1990, nutrition education in Montana will be part of required comprehensive school health education at the elementary and secondary levels.

Rationale: The number of Montanans with obvious nutrition problems is an indication of the need for nutrition education in the schools. On-going nutrition education is part of preparation for responsible parenting and healthful living.

Discussion: A number of elementary and secondary schools now include nutrition education. Requirement of a basic nutrition course for teacher certification would increase the opportunity to relate nutrition in other subject matter areas and to promote factual nutritional information.

★ ★ ★ ★ ★

Objective 2: By 1990, the proportion of Montana women who breastfeed their babies at hospital discharge should be increased to 75 percent and 35 percent at six months of age.

Rationale: To improve the nutritional status, increase immunities, enhance infant development and reduce hospital/clinic admissions for feeding complications and infections during the first two years.

Discussion: Data are needed for Montana WIC and non-WIC clients. The 1983-84 WIC Statewide Objective was the same as this objective. Accomplishment of the WIC objective is indicated by local WIC agency evaluations.

★ ★ ★ ★ ★

Objective 3: By 1990, growth retardation of infants and children caused by inadequate diets should have been eliminated in Montana as a public health problem.

Rationale: Child's reduced energy, unnecessary medical/health evaluation visits and costs for children and underdeveloped knowledge skills and abilities of young children is unnecessary in a country and community with adequate food resources.

Discussion: Data are available on the WIC population; however, this data is not representative of the entire state. The objective is feasible but will, of necessity, involve efforts of public and private health care providers and of social programs.

★ ★ ★ ★ ★

Objective 4: By 1990, the prevalence of significant overweight (120 percent of "desired" weight) among the Montana adult population should be decreased to 10 percent of men and 17 percent of women, without nutritional impairment.

Rationale: Overweight is a problem of considerable numbers of adults. Overweight contributes to many diseases, including heart disease and diabetes.

Discussion: There are no data available on overweight in Montana.

Data is needed for Montana including incidence of overweight, valid assistance programs available and success rates of existing programs.

* * * * *

Objective 5: Before 1990, a comprehensive Montana nutrition status monitoring system should have the capability for detecting nutritional problems in special population groups, as well as for obtaining baseline data for decisions on Montana nutrition problems.

Rationale: Ideally, we would want to monitor the nutrition status of Montanans. However, this is an expensive project and not currently realistic. A national study, federally funded, would allow us to apply findings to each state.

Discussion: Data on nutrition needs and problems should be established to give direction for future nutrition programs. Previous nutrition surveys (Hanes and Ten State) have not done this.

No data is available on general population. A comprehensive data system is needed. Encouragement should be given to the legislature to support the nutrition monitoring bill.

PHYSICAL FITNESS AND EXERCISE

Summary of the Problem:

The Montana lifestyle is relatively sedentary. The proportion of adults aged 18 to 65 regularly exercising has been estimated at just over 41 percent, comparing with a 37 percent rate nationally. Children have been estimated to participate in daily physical education at a rate of 33 percent.

A resurgence of interest in physical fitness and exercise has emerged in the past decade. Yet, the need to improve is obvious in that awareness of regular exercise benefits and what is considered to be appropriate physical activity is limited. Most people have been shown not to exercise in a manner necessary to achieve maximum benefits. Also, exercise as a beneficial lifestyle modification has been largely ignored by health professionals.

Appropriate physical activity is a valuable tool in the control and amelioration of obesity, coronary heart disease, hypertension, diabetes, musculoskeletal problems, respiratory disease, stress and depression/anxiety.

Benefits are achievable if cooperative efforts can be developed to support research and increase the public's awareness of participation in regular physical fitness and exercise.

PHYSICAL FITNESS AND EXERCISE

Priority Objectives

Objective 1: By 1990, the proportion of adults 18 to 65 participating regularly in health related fitness should be greater than 60 percent, 50 percent by 1988 in Montana.

Objective 2: By 1990, a methodology for systematically assessing the physical fitness of Montana children should be established, with at least 70 percent of children and adolescents ages 10 to 17 participating in such an assessment.

Objective 3: By 1990, 50 percent of Montana adults 65 years and older should be engaging in appropriate physical activity, e.g., regular walking, swimming or other aerobic activity.

Objective 4: By 1990, data should be available with which to evaluate the short and long-term health effects of participation in programs of physical activity in Montana.

Objective 5: By 1990, the proportion of Montana children and adolescents ages 10 to 17 participating in daily school physical education programs should be greater than 80 percent.

Other Objectives

Objective 6: By 1990, the proportion of Montana children and adolescents ages 10 to 17 participating regularly in appropriate physical activities (3x per week at least 30 minutes aerobically) should be greater than 90 percent.

Objective 7: By 1990, Montana data should be available for regular monitoring of national trends and patterns of participation in physical activity, including participation in public recreation programs in community facilities. By 1990, Montana data should be available to evaluate the effects of participation in programs of physical fitness on job performance and health care costs.

Objective 8: By 1990 the proportion of Montana primary care physicians who include an exercise history as part of their initial examination of new patients should be greater than 50 percent.

Objective 9: By 1990, the proportion of Montana adults who can accurately identify the variety and duration of exercise thought to promote most effectively cardiovascular fitness should be greater than 70 percent.

Objective 10: By 1990, the proportion of employees of Montana companies and institutions with more than 50 employees offering employer-sponsored fitness programs should be greater than 25 percent.

PHYSICAL FITNESS AND EXERCISE

Objective 1: By 1990, the proportion of adults 18 to 65 participating regularly in health related fitness should be greater than 60 percent, 50 percent by 1988 in Montana.

Rationale: Health related fitness is a positive lifestyle behavior which makes most people feel better when participating on a regular basis. Appropriate physical activity is a valuable tool in the control and amelioration of obesity, heart disease, hypertension, diabetes, musculoskeletal problems, respiratory diseases, stress and depression/anxiety.

Discussion:

* * * * *

Objective 2: By 1990, a methodology for systematically assessing the physical fitness of Montana children should be established, with at least 70 percent of children and adolescents ages 10 to 17 participating in such an assessment.

Rationale: The development of a system to assess the physical fitness levels will provide data for individual prescriptions and design programs to fit the group.

Discussion:

* * * * *

Objective 3: By 1990, 50 percent of Montana adults 65 years and older should be engaging in appropriate physical activity, e.g., regular walking, swimming or other aerobic activity.

Rationale: A high proportion of the physical decline attributed to aging is actually the result of inactivity and inadequate nutrition. Regular exercise can reduce risk of heart disease, stress, obesity, and high blood pressure.

Discussion: A health promotion program might include education on exercise: 1) physiological effects of exercise; 2) flexibility and strength; (3) increasing heart and lung fitness.

* * * * *

Objective 4: By 1990, data should be available with which to evaluate the short and long-term health effects of participation in programs of physical activity in Montana.

Rationale: Measurement of health effects is as necessary as the fitness activities. Without progress measurement, the evidence needed to document fitness programs will be reduced. Statistical data can assist in establishing nationally comparable standards of physical fitness.

Discussion:

* * * * *

Objective 5: By 1990, the proportion of Montana children and adolescents ages 10 to 17 participating in daily school physical education programs should be greater than 80 percent.

Rationale: Daily school physical education programs help lay a foundation for lifelong values of health and fitness. Physical inactivity contributes to overweight and obesity and their related conditions, the lack of mobility, flexibility and strength apparent in older persons, the early onset of hypertension, elevated cholesterol, the high incidence of lower-back pain, and lower scores registered by boys and girls on standardized physical fitness tests.

Discussion: A high school must offer at least a two year program of physical education and specific instruction in health, the content to be adjusted to provide for earning one unit of credit during a two year period.

The junior high school must offer three years of physical education; elementary shall have a minimum educational program of physical education and health education - suggested as four hours weekly.

The standards for Montana accreditation related to physical education and health education needs revamping.

CONTROL OF STRESS AND VIOLENT BEHAVIOR

Summary of the Problem:

Stress is a natural part of life in Montana. Some stress may be beneficial and can lead to increased productivity. Unless stress is suitably managed, it can contribute to physical and mental problems such as depression, fatigue, obesity, coronary disease, suicide or violence.

There is increasing public awareness that unmanaged stress can be harmful. Various associations have been demonstrated among stress, health and disease. These associations have provided evidence that stressful factors can be assessed. A need to investigate the human implications -- especially among the more vulnerable populations of teenagers, elderly and the disadvantaged -- which link stress to health disorders exists.

CONTROL OF STRESS AND VIOLENT BEHAVIOR

Priority Objectives

Objective 1: By 1990, injuries and deaths to children in Montana inflicted by abusing parents should be reduced by at least 25 percent from 1982 rates.

Objective 2: By 1990, the rate of suicide among Montanans age 15-24 should be below 11 per 100,000.

Objective 3: By 1990, the proportion of people ages 15-24 who can demonstrate knowledge of how to contact a suicide hotline, or if not available, another suicide prevention resource, will be greater than 60 percent.

Objective 4: By 1990, stress identification and management should become integral components of the continuum of health services offered by organized health programs in Montana.

Objective 5: By 1990, Montana's ten largest firms will offer work based stress reduction programs.

Other Objectives

Objective 6: By 1990, the death rate from homicide among non-white Montanans ages 15 to 24 should be reduced to below 60 per 100,000.

Objective 7: By 1990, the number of handguns in private ownership in Montana should have declined by 25 percent.

Objective 8: By 1990, the proportion of the Montana population over age 15 that lives in communities having stress support services, and that can identify an appropriate community agency to assist in coping with stress, should be greater than 50 percent.

Objective 9: By 1990, the number of Montana primary care physicians who take a personal history related to stress and psychological skills should be greater than 60 percent.

Objective 10: By 1990 in Montana membership/use of mutual support/self help groups should double from 1978 rate (or increase by 50 percent over 1985 rates).

Objective 11: By 1985, baseline surveys should be conducted to show what percentage of the Montana population perceives stress as adversely affecting their health, and what proportion of these are trying to use appropriate stress control techniques.

Objective 12: Develop methodology to assess environmental stress loads and coping adequately in individuals and groups by 1985.

Objective 13: By 1990, expand the existing knowledge base on stress and its effects through scientific inquiry.

Objective 14: By 1990, a system of collecting reliable data on the incidence and prevalence of child abuse and other forms of family violence should be greatly increased.

CONTROL OF STRESS AND VIOLENT BEHAVIOR

Objective 1: By 1990, injuries and deaths to children in Montana inflicted by abusing parents should be reduced by at least 25 percent from 1982 rates.

Rationale: Child abuse is eroding all segments of our society; however, the number of those who are recognizing the seriousness of this problem is growing.

Discussion: Possible intervention strategies include training for agency staff, education/identification campaign with schools and agencies, and education/counseling for families.

Identification and intervention should include attention to "typical" violence/neglect and to sexual abuse. This may require different intervention/treatment approaches.

The findings and recommendations of the Montana Child Abuse Task Force should be utilized.

* * * * *

Objective 2: By 1990, the rate of suicide among Montanans age 15-24 should be below 11 per 100,000.

Rationale: In 1982 there were 19 suicides in the age group indicating a rate of 13 per 100,000.

Discussion: Focus of intervention may include support systems (crisis lines, counseling service, support groups, etc.), education efforts to inform public of services, reducing stigma regarding seeking services at early stages of depression, and providing education/training regarding early identification of potential high risk or depressed people. The 1990 data rate should be established.

* * * * *

Objective 3: By 1990, the proportion of people ages 15-24 who can demonstrate knowledge of how to contact a suicide hotline, or if not available, another suicide prevention resource, will be greater than 60 percent.

Rationale: Schools are a key component. The entire age range could be covered by schools.

Discussion: Education should be oriented toward crises prevention or mental health, not just illness or suicide.

The work plan should include increasing number of telephone directories listing suicide hotline under emergencies and/or making suicide services accessible under "emergency" telephone numbers.

Also, a current baseline is desirable.

* * * * *

Objective 4: By 1990, stress identification and management should become integral components of the continuum of health services offered by organized health programs in Montana.

Rationale: Stress plays a definite impact on our lives. We will most likely find in the future years that stress (uncontrolled) is responsible for the majority of our ailments.

Discussion: Stress has been scientifically associated with depression, coronary heart disease, peptic ulcer, suicide, asthma, and diabetes.

There is a need for more bio-behavioral research helping to pinpoint the cause and effect relationship.

* * * * *

Objective 5: By 1990, Montana's ten largest firms will offer work based stress reduction programs.

Rationale: Healthy workers are an asset to themselves and their families, to management, to labor organizations, to stockholders, and to the community. Stress management as a part of encouraging the heightened consumer interest in health matters, along with better medical care, has already led to notable improvements in productivity and reduction in health care costs.

Discussion: Evidence of cost benefits of health promotion efforts is just beginning to grow. The potential payoff is the long-term possibility of reducing insurance premiums, disability benefits, and medical costs.

Insurance carriers may consider a role in assisting these employers in establishing the stress reduction programs.

REFERENCES

Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention, U.S. Department of Health and Human Services, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, 1979.

Health Promotion and Disease Prevention: A Michigan Perspective, Michigan Public Health Association, P.O. Box 1942, Saginaw, MI 48605.

Model Standards: A Guide for Community Preventive Health Services, A collaborative project of APHA, CDC, ASTHO, National Association of County Health Officials and U.S. Conference of Local Health Officers, 1985.

Prevention Profile, excerpted from Health, United States, 1983, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, Washington, D.C.

Proceedings of the Texas Conference on Disease Prevention and Health Promotion 1990 Objectives, Texas Department of Health, 1100 West 49th Street, Austin, TX 78756, 1984.

Promoting Health/Preventing Disease: Objectives for the Nation, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 1980.

Public Health Service Plans for Attaining the Objectives for the Nation, Public Health Reports, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 1983.

